PRELIMINARY ASSESSMENT OF THE CURRENT IMPACT AND POTENTIAL RISK OF ACIDIC DEPOSITION ON WALLEYE POPULATIONS IN ONTARIO

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ONTARIO FISHERIES ACIDIFICATION REPORT SERIES

The Ontario Fisheries Acidification Report Series has been established by the Ontario Ministry of Natural Resources to document findings from studies conducted as part of the Fisheries Acidification Program. These reports are intended to contribute to our knowledge of acidification effects, but they should also be of general interest to fisheries managers.

These reports are basically progress reports. Much of this information will appear later in journal papers.

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Abstract

Netting survey and field bioassay data were used to determine a pH threshold for survival of walleye (Stizostedion vitrem). Established pH thresholds were then used to assess the current impact and potential risk of acidic deposition on walleye populations in Ontario. Extinction of walleye appeared to occur in lakes with pH $\leq$ 5.5. Some losses may also have occurred in lakes with pH 5.5 - 6.0. An estimated 0.3% (N = 12) of the Ontario walleye lakes currently have pH $\leq$ 5.5 and have likely lost walleye populations. A further 1.5% (N = 60) of the lakes have pH 5.5 - 6.0 and may show signs of acidification stress. An estimated 2.0% (N = 79) of the province's walleye lakes have very low alkalinities (0.0 - 2.0 mg/L) and are classified as extremely sensitive to continued high deposition of acidic precipitation.

INTRODUCTION

The chemical sensitivity of lake trout (Salvelinus namaycush) and brook trout (S. fontinalis) populations to acidic deposition has been described for Ontario lakes (Beggs and Gunn 1986, Beggs et al. 1985). No similarly rigorous examination has been completed for Ontario's walleye (Stizostedion vitreum) populations. In this study, we examined:

-characteristics of the lakes the species inhabit,

-characteristics of the species' life history,

-published and unpublished toxicity data,

-water chemistry data for walleye lakes and stream spawning sites,

to determine the risk to Ontario's walleye resource from acidic deposition.

METHODS

To examine the sensitivity of walleye and walleye lakes to acidic deposition three data sets were used:

1) the Walleye Atlas which contains a list of all 'known' walleye lakes (n=4038) according to personnel from the Ontario Ministry of Natural Resources district offices (OMNR 1987). This data set contains information on lake location, lake size, and the origin of the walleye population (native, introduced, or unknown).

2) the Comprehensive Data Set which contains lake water chemistry, lake morphometry and fish species presence information from about 3000 lakes in the province, of which 802 were reported to contain walleye (appendix 1). Fish species presence information was obtained from the Aquatic Habitat Inventory (Dodge et al. 1987). A description of the water chemistry methods is contained in Wales and Beggs (1986).

3) a data set that contains stream chemical information collected at walleye spawning sites in 1981. Streams were sampled in the Ministry of Natural Resources (MNR) administrative regions of Algonquin (n=5), Northeastern (n=30) and Northwestern (n=12) (Figure 1). Sampling intensity varied from 1 to 17 samples, collected during the months of February through May. Water samples were analyzed for pH, alkalinity, and conductivity at the Ontario Ministry of the Environment (OMOE) according to methods outlined in OMOE (1981).

Deposition Zones

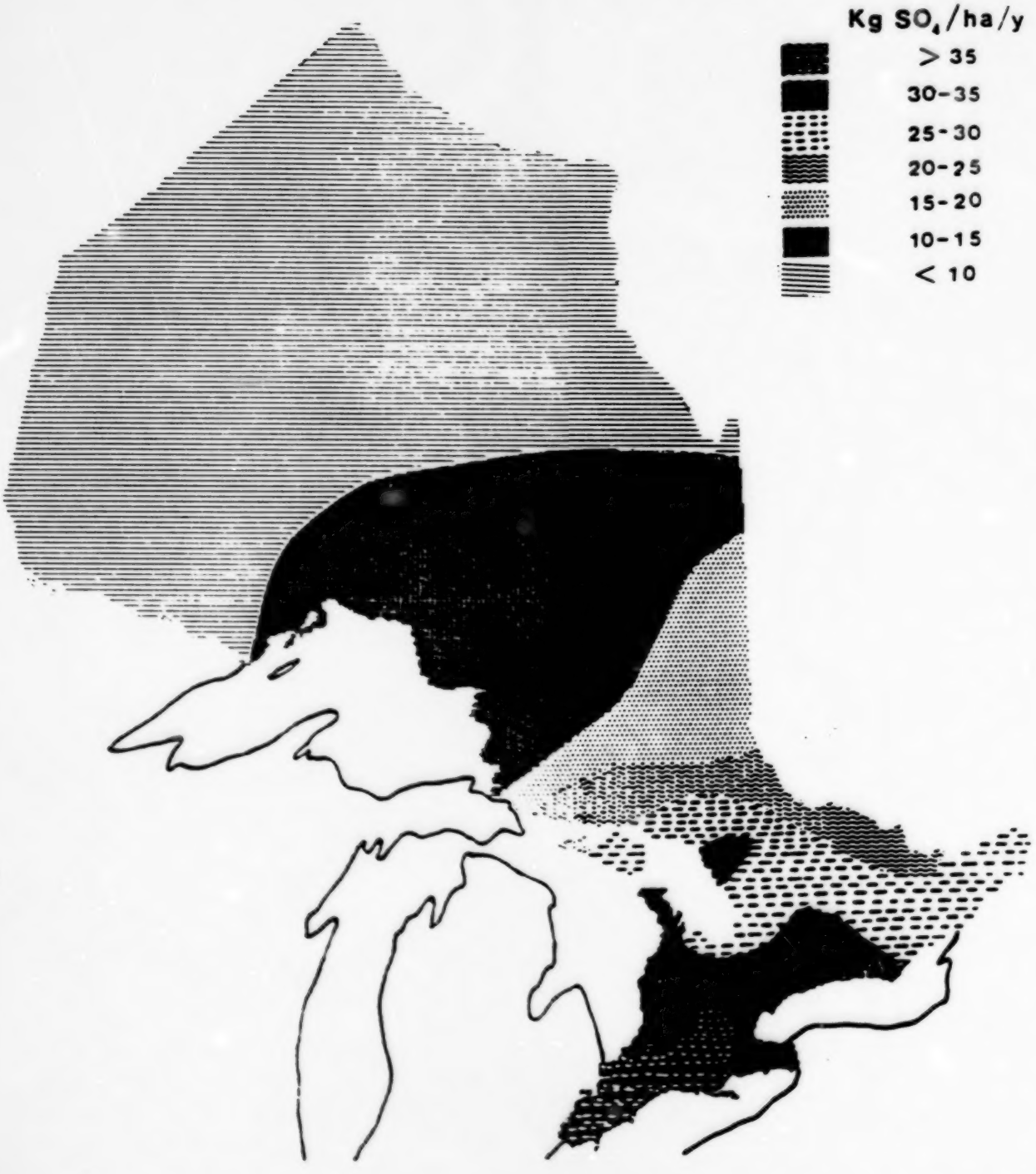
The distribution of Ontario's walleye resource was assessed relative to sulphate deposition. Two zones were identified using data from a network of precipitation monitoring sites located across Ontario (Tang et al. 1986). The two zones were based on the 20 kg/ha/year mean wet sulphate deposition isopleth (Tang et al. 1986) (Figure 2). The findings presented in the review document "Memorandum of Intent"

FIGURE 1. MNR Administrative regions of Ontario. Also shown is the Wawa district in the Northeastern region.

NW = Northwestern
NC = North Central
N = Northern
NE = Northeastern

AL = Algonquin
E = Eastern
C = Central
SW = Southwestern

FIGURE 2. Mean annual wet sulphate deposition isopleths (from Tang et al. 1986)



(MOI 1983) showed a loading of < 20 kg/ha/year of wet sulphate is not expected to cause damage to sensitive aquatic systems. The 20 kg/ha/year wet SO4 isopleth was adjusted northward to conform to the nearest MNR district boundry. The high deposition zone includes the MNR administrative regions of Southwestern, Central, Eastern, and Algonquin, and the Northeastern region excluding Wawa district (Figure 1). The location of all known walleye lakes relative to the adjusted 20 kg/ha/year wet SO4 isopleth is shown in Figure 3.

In this analysis, we use the Comprehensive Data Set to estimate the proportion of Ontario's walleye resource at various stages of acidification. To extrapolate from a sample to the total population, the sample should be representative of the total population. To test this assumption the area and location of the walleye lakes in the Comprehensive Data Set were compared to the 'known' provincial walleye resource from the Walleye Atlas (OMNR 1986). Lake area and geographic location have been shown to be related to lake pH for Ontario lakes (Wales and Beggs 1986). If biases exist in the data set and are not corrected, we would introduce bias into our prediction of resources at risk. For this analysis we used MNR region to represent geographic location (Figure 1). Very little difference was observed between the distributions by lake size class (Figure 4), whereas differences were observed when comparing the distributions by region (Figure 5). Generally the Comprehensive Data Set under-represents walleye lakes in Northwestern Ontario (low deposition) relative to resources in Algonquin and Northeastern region (high deposition). Therefore, we account for this bias by

FIGURE 3. Distribution of known walleye lakes in Ontario (Ontario Ministry of Natural Resources 1987) relative to the acidic deposition zones.

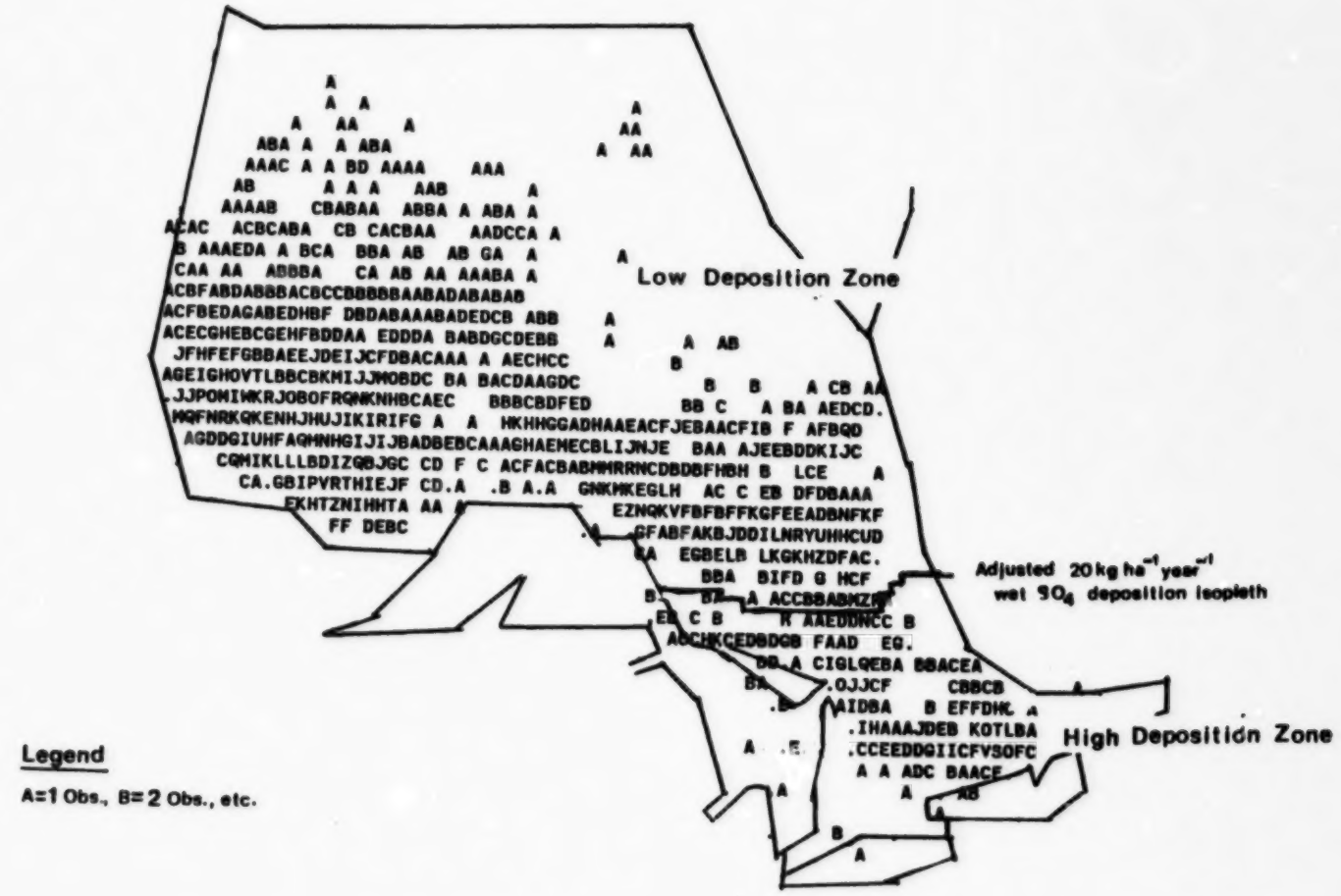


FIGURE 4.

PERCENT OF WALLEYE LAKES
BY LAKE AREA CLASS

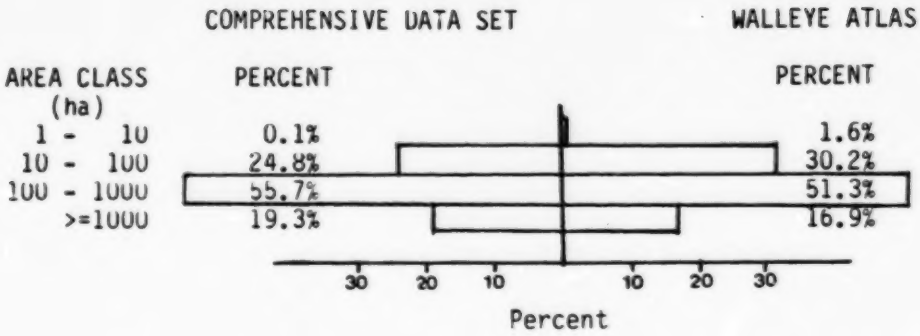
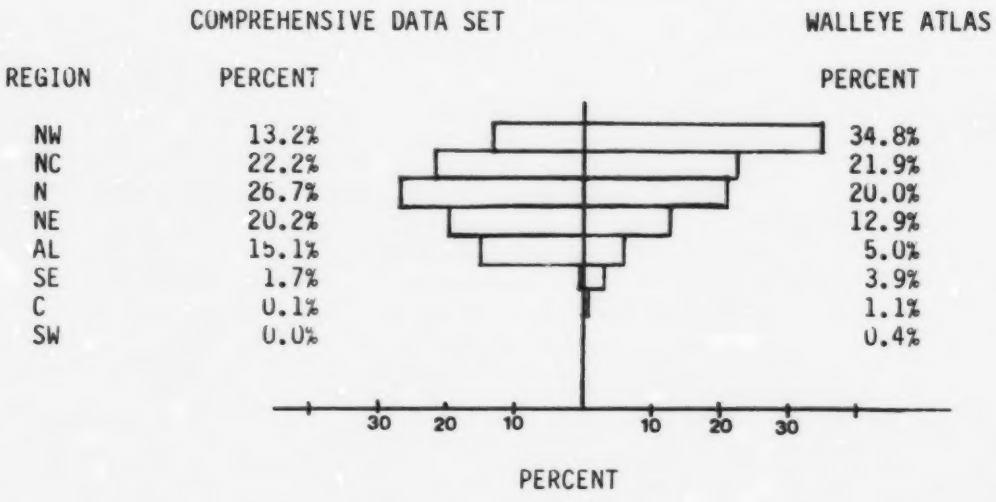


FIGURE 5.

PERCENT OF WALLEYE LAKES
BY MNR ADMINISTRATIVE REGION



MNR ADMINISTRATIVE REGIONS
NW-NORTHWESTERN
NC-NORTHCENTRAL
N -NORTHERN
NE-NORTHEASTERN
AL-ALGONQUIN
SE-SOUTHEASTERN
C -CENTRAL
SW-SOUTHWESTERN

extrapolating to the population level, by MNR administrative regions.

RESULTS AND DISCUSSION

Characteristics of the Walleye and Walleye Lakes

Walleye are distributed over a wide range of chemical and physical conditions; however they show greater distribution in slightly turbid lakes as the species is negatively phototactic (Colby et al. 1979). Their preferred temperature is 20-23°C, however they also tolerate a wide range of water temperatures (Colby et al. 1979). Spawning generally occurs after ice out in relatively shallow streams, lake shoals, or shorelines (Colby et al. 1979). The rate of egg and fry development varies directly with mean incubation temperature. Upon hatching the fry leave the spawning beds and drift into the limnetic waters (Colby et al. 1979).

Reproductive failure is the major cause of fish population losses in acidified systems (Beggs and Gunn 1986, Haines 1981). Laboratory studies have also shown that the early life stages are the most sensitive to acidification stress (Haines 1981). Therefore, for walleye we assume that the most critical stages with respect to acidification stress are the early life stages (egg through first-feeding fry).

In sensitive aquatic systems, episodic events such as spring melt and

heavy rainfall are thought to cause mortality of early life stages of fish (Jeffries et al. 1977). Since walleye usually spawn after ice out, it is unlikely that the stages most sensitive to acidification will coincide with peak spring melt.

Known walleye lakes are largely (82%, n=3328) distributed in the area of the province receiving a SO4 deposition which is not expected to cause damage to sensitive ecosystems (Figure 3)(<20 kg/ha/year wet SO4; MOI 1983). A relatively small proportion (18%) of the total resource is potentially at risk to acidic deposition. Walleye are generally distributed in large lakes (Colby et al. 1979). Most (68.2%) of the province's walleye lakes are >= 100 ha in surface area (OMNR 1986), whereas lakes of this surface area represent only 5.9% of the total population of lakes in Ontario (Cox 1978). Generally large lakes are less susceptible to acidification when compared to small lakes (Wales and Beggs 1986).

To determine the chemical threshold for walleye, the results from field bioassay tests were examined. In LaCloche Mountain area streams near Sudbury, Hulsman et al. (1983) showed high mortality of walleye eggs at pH 5.4 with high concentrations of metals such as aluminum (Total Aluminum 0.137mg/l) and low apparent colour (2.0 hazen units (HU)). They found low mortality at pH > 6.0. The Comparative Lakes Study of the Fisheries Acidification Program conducted a walleye bioassay at 6 sites in low pH streams (pH <= 5.8) in the LaCloche Mountain area (Table 1). Two of the sites had pH <=5.5 and showed high mortality (>99%). The remaining four sites

Table 1. Chemical characteristics of walleye bioassay sites, located in the Killarney area. MEAN, +- SD, AND (N) indicat

	SITES					
	L	CL	CS	CC	RR	CI
pH	5.79 (26)	5.85 (21)	5.83 (26)	5.75 (26)	4.69 (15)	5.53 (26)
COLOUR (HU)	21+-5 (7)	19+-7 (7)	6+-1 (7)	7+-3 (6)	4+-1 (5)	3+-1 (7)
TOTAL AL MG/L	0.185 (7) -+0.027	0.173 (7) +-0.031	0.131 (7) +-0.017	0.139 (7) +-0.017	0.576 (5) +-0.060	0.125 (6) +-0.012
CA MG/L	2.3 (7) +-0.2	4.2 (7) +-0.2	2.7 (7) +-0.2	2.6 (6) +-0.1	1.3 (5) +-0.05	2.2 (7) +-0.1
MORTALITY %	31.0 (9) +-8.5	36.6 (11) +-14.5	57.7 (12) +-10.4	84.1 (8) +-13.2	99.3 (12) +-1.4	100.0 (12) +-0.0

Cu <= 0.002 mg/l at all sites
Ni <= 0.007 mg/l at all sites (no samples taken at 'L')

SITES

RR RUTH ROY OUTLET
L LUMSDEN LAKE OUTLET
CI GEORGE LAKE OUTLET
CC CHIKANISHING RIVER
CL CHIKANISHING RIVER
CS CHIKANISHING RIVER

had pHs in the range of 5.75- 5.85. Concentrations of Ni and Cu were low for all sites tested (Table 1). These metals are often elevated in Sudbury area lakes, and can be toxic to biota (Keller and Pitblado 1986). Mortality rates varied between the four sites, being highest at sites with low apparent colour (6 and 7 hazen units) and total aluminum concentrations of 0.139 and 0.131 mg/l. The sites with higher apparent colour (19 and 21 HU) showed lower mortality rates even though these sites had higher total aluminum (0.173 and 0.185 mg/l) (Table 1) . Apparent colour can be used to indicate the dissolved organic carbon (DOC) content of a water body. High DOC decreases the toxicity of aluminum to fish (Baker 1982). These results confirm the importance of DOC in determining the toxicity of aluminum to fish.

Wild fish populations disappear from lakes at a higher pH than one would predict based on laboratory and field toxicity data (Haines 1981). Toxicity data are best used to bracket the chemical conditions thought to be toxic to the natural populations. Therefore to accurately predict the lake chemical conditions toxic to walleye populations, we examined field population data.

Beamish (1976) reported the disappearance of walleye populations from lakes in the Sudbury area at pHs between 5.5 and 6.0. Harvey and Lee (1982) reported the decline and eventual disappearance of walleye from George lake at pHs between 6.5 (colorimetic pH) and 4.8-5.3 (potentiometric pH). The Comparative Lakes Study of the Fisheries Acidification Program and the MNR Sudbury District Office has

collected population data from 6 Sudbury area lakes known to have historically supported native walleye populations (Table 2). Potentiometric pH, alkalinity, aluminum, and apparent colour values are listed for the 6 lakes in Table 2. These water chemistry data may not reflect the lake chemical conditions during the population decline or extinction. These now extinct walleye populations likely declined during the late 1950's and early 1960's. Acidification of Sudbury area lakes proceeded very rapidly during the 1960's and 1970's (Beamish and Harvey 1972). Therefore, for these Sudbury area lakes, it may not be accurate to relate current or recent water chemistry to the lake's chemical regime at the time of the population decline or extinction. Lake pH at the time of the population decline may have been much higher than those listed in Table 2.

For all walleye lakes in the Comprehensive Data Set with pH <=6.1, we compiled population data from MNR district offices (Table 3). Three lakes with pHs above 6.1 were included because possible acidification effects were observed by district personnel.

In the Sudbury District, Lake Panache is reported to have a declining walleye population showing missing or rare younger age classes. Lake Panache is a large (7,740 ha), circumneutral (pH 6.7) lake which historically supported a healthy walleye population (Sudbury District Files). A creel survey conducted during the spring and summer in 1984 on Lake Panache, showed that one walleye was caught (Sudbury District Files). The Lake Panache walleye population historically spawned in the outlet of Gabodin Lake (pH 5.54 (Table 4); spawning

TABLE 2.

LAKE CHEMICAL DATA FOR SIX
NORTHEASTERN REGION LAKES WITH EXTINCT
WALLEYE POPULATIONS

LAKE	PH	ALK MG/L	COLOUR APPARENT (HA)	TOTAL ALUMINUM MG/L	DATE (MMYY) WATER SAMPLE
LINGER	5.01	-0.43	6.3	0.180	0781
MATAGAMASI	4.92	-0.63	0.0	0.240	0681
WHITSON*	5.83	0.6	16.0		0582
CHINIGUCHI	4.63	-1.27	0.0	0.290	0781
MASKINONGE	5.19	0.66	-0.5	0.060	0681
DOUGHERTY	4.50	-1.69	-0.9	0.310	0781

* WHITSON LAKE -HIGH NICKEL CONCENTRATION (NI=0.260MG/L)

TABLE 3.

WALLEYE POPULATION STATUS AND CHEMICAL DATA
FOR SELECTED LAKES LISTED BY MNR DISTRICT
(see Appendix 1 for complete lake information)

SUDBURY DISTRICT

ASHIGAMI LAKE- pH=5.97; ALK=1.97mg/l
- walleye collected in 1969 lake survey
- young walleye observed in creel, suggesting successful recruitment (J. Chute, MNR Sudbury District Office)

BIGWOOD
- pH=5.58; ALK=0.33mg/l; COLOUR=19.8 HU
- healthy walleye population

HELEN LAKE
- pH=5.88; ALK=1.04mg/l; COLOUR=11.7 HU
- inventoried in 1980, walleye collected

MAHZENAZING
- pH=5.89; ALK=0.5mg/l; COLOUR=7.7 HU
- inventoried in 1968 walleye found;
- no walleye collected in a 1983 survey

MASKINONGE
- pH=6.14; ALK=0.66mg/l;
- inventoried in 1971 walleye found

MURRAY
- pH 5.73; ALK=0.70mg/l
-inventoried in 1971 walleye found
- young walleye observed in the creel, suggesting successful recruitment (J. Chute, MNR, Sudbury District)

PANACHE
- pH 6.7; ALK=4.01mg/l; COLOUR=4.9 HU; AL=0.014mg/l
- declining walleye population
- creel survey in 1985, 1 fish reported
- only known spawning site Gabodin Creek

THREE NARROWS- pH=5.7; ALK=0.25mg/l; COLOUR= 9.5 HU
- surveyed in 1969 young walleye collected
- surveyed in 1984 only 1 fish collected (age 11)
- declining angler returns reported
- lake receives a fair amount of angler pressure
- water levels fairly stable for past 50 years

WASHAGAMI
- pH=5.48; ALK=0.10mg/l
- inventoried in 1971, walleye caught
- young walleye observed in 1987 creel suggesting successful recruitment (J. Chute MNR Sudbury)

TABLE 3. continued

WAWA DISTRICT

PICNIC
- pH=5.84; ALK=0.87mg/l
- walleye caught in a 1972 survey of the population
- walleye fishing- not good
- other stress unknown?

* contact Bob Gerrard, Wawa District Office

TEMAGAMI DISTRICT

ANVIL
- pH=6.16; ALK=1.29mg/l; COLOUR=18.8 HU
- one walleye found in a 1974 lake survey
- current population status unknown

SMOOTHWATER
- pH=5.84; ALK=0.21mg/l
- walleye found in a 1969 survey
- current status unknown

*contact Peter Weilandt, Temagami District Office

NORTH BAY DISTRICT

STURGEON
- pH=5.10; Alk<0.0mg/l; DOC=7.1mg/l
- surveyed in 1979 only large walleye collected
- current status unknown

McQUABY
- pH=6.3; Alk=1.2mg/l; Colour=15.1 HU
- 1986 fish survey (small mesh gill net and electro-fishing) 1 young of the year walleye caught, all other fish >= 3 years
- April 1985 surface pH of 5.3 and 5.6
- large rock bass population
- no major water level fluctuations

* Contact C. McCrudden and C. Jorgenson

Table 4. Chemical characteristics and percent mortality of walleye bioassay sites, in the Gabodin Creek. Mean, SD, and N indicated.

	Gabodin Creek	GRANITE		LIMESTONE	
		TEST1	TEST2	TEST1	TEST2
pH	5.54 +-0.10 N=8	5.52 +-0.09 N=7	5.55 +-0.10 N=8	6.13 +-0.12 N=8	6.12 +-0.11 N=8
ALK	0.41 +-0.11 N=5	0.49 +-0.17 N=4	0.42 +-0.09 N=5	1.29 +-0.12 N=6	1.37 +-0.12 N=6
CA	2.72 +-0.07 N=8	2.73 +-0.14 N=7	2.69 +-0.06 N=8	2.98 +-0.08 N=8	2.99 +-0.08 N=8
AL	0.125 +-0.01 N=6	0.130 +-0.01 N=5	0.120 +-0.02 N=6	0.120 +-0.02 N=6	0.120 +-0.01 N=5
DOC	3.14 +-0.15 N=8	3.20 +-0.15 N=7	3.14 +-0.15 N=8	3.19 +-0.10 N=8	3.19 +-0.16 N=8
% MORTALITY		40.1 +-13.7 N=20	32.0 +-13.3 N=20	28.6 +-9.9 N=20	25.9 +-10.1 N=20
LOG(#DEAD/#TOTAL)		-0.413 +-0.140 N=20 A*	-0.537 +-0.210 N=20 B*	-0.570 +-0.162 N=20 B*	-0.622 +-.185 N=20 B*

* THE MORTALITY DATA FOR TREATMENTS WITH LIKE NUMBERS ARE NOT SIGNIFICANTLY DIFFERENT (DUNCAN'S MULTIPLE RANGE TEST, P=0.05).

MORTALITY DATA WERE LOG TRANSFORMED TO MEET THE ASSUMPTIONS OF THE ANOVA.

observations made by Don Hughson, MNR in 1950-60). The Comparative Lakes Study of the Fisheries Acidification Program conducted a walleye egg incubation study in the spring of 1987 at Gabodin Creek to determine if water chemistry at this site was toxic to the early life stages of walleye. Eggs were held during the period from fertilization to hatching in limestone and granite containers. Relative to the Gabodin Creek water chemstry, the limestone treatment increased the pH, alkalinity, and Ca concentrations; whereas the granite treatement caused no change in the water chemistry (Table 4). Total mortality was significantly higher (Duncans multiple range test P=0.05) for eggs incubated in one of the granite test containers (Test 1; pH 5.52; mortality 40.1%) when compared to eggs incubated in limestone treated water (pH 6.13 and 6.12; mortality 28.6 and 25.9 %) and the granite test 2 container (pH 5.55; mortality 32.0%) (Table 4). No explanation was found for the observed difference in mortality rates between the two granite test sites.

An index netting program conducted in Three Narrows lake (pH 5.7) in 1983, collected only one walleye (age 11). Sudbury district staff reported declining angler returns on this lake (Sudbury District files). The walleye spawning location is unknown.

Bigwood lake with a pH of 5.58, contains a healthy walleye population. The spawning location of the walleye in this lake is unknown. The population may spawn in an inlet with better water quality than Bigwood lake. Bigwood lake has relatively high apparent colour (19.8 HU), which may decrease the toxicity of the

lake's aluminum.

Young walleye were observed in creel surveys in Ashigami Lake (pH 5.97), Murray Lake (pH 5.73), and Washagami Lake (pH 5.48)), suggesting successful recruitment occurred. The spawning locations are unknown.

The status of the walleye populations and the location of the spawning sites are unknown for most of the lakes listed in Table 3. Other stresses such as water level draw-downs and over-fishing cause fluctuations in walleye populations. These factors make it difficult to determine the status of the population with respect to acidification, and the critical threshold pH for native walleye popultions.

The pH of two walleye spawning streams in North Bay District declined to levels that may have caused mortality to the early life stages of walleye (Duchesney, pH 4.9; Rainey, pH 5.6) (Table 5). The Duchesney River provides a spawning and nursery area for Lake Nipissing (pH 7.34- 7.47) walleye and the Rainy River for the Memesagamesing Lake (pH 6.1) walleye. All walleye spawning stream data examined in this analysis (Algonquin Region N=5, Northeastern N=30, and Northwestern Region N=12) showed pH and alkalinity depressions; however only the two streams in North Bay district (in Northeastern Region) experienced pH depressions below 6.0 (Table 5).

For stream spawning populations, no spawning site chemical data are

TABLE 5.

SUMMARY OF WATER CHEMISTRY DATA FOR 10 WALLEYE SPAWNING STREAMS IN NORTH BAY DISTRICT SAMPLED IN 1981

RIVER	DURATION	N	pH	ALKALINITY MG/L	ORIGIN OF THE SPAWNING POPULATION
DUCHESNEY	FEB 27-MAY 28	18	4.9-6.5	-0.5-2.0	NIPISSING
WASI	FEB 27-MAY 1	13	6.6-6.9	9.9-16.5	NIPISSING
RAINEY	APR 30-MAY 25	7	5.6-5.8	1.0-1.5	MEMESAGAMESING
VEUVE	FEB 27-APR 30	13	6.6-7.0	9.8-37.5	NIPISSING
RESTOULE	FEB 27-MAY 15	15	5.9-6.0	2.0- 4.0	RESTOULE
HOLDRIDGE	FEB 27-MAY 15	14	5.9-6.7	3.0-12.0	RED CEDAR
STURGEON	FEB 27-MAY 1	12	6.6-6.0	6.0-13.2	NIPISSING
KAIBUSKONG	FEB 27-MAY 1	13	6.7-7.0	10.0-13.9	LAKE TALON
SOUTH	FEB 27-MAY 1	12	6.0-6.1	2.0- 7.0	NIPISSING
LITTLE PICKEREL	FEB 27-MAY 1	12	6.4-6.6	6.0- 9.0	LE GROU

available in the Comprehensive Data Set. The percent of walleye populations which spawn in streams is also unknown. In this analysis we use lake water chemistry data from the Comprehensive Data Set to predict population status on a provincial basis. Greater accuracy could be achieved if for stream spawning populations, chemical data were available from the streams.

Although pH, aluminum and DOC have been shown to be important in predicting the status of walleye populations, pH is the chemical parameter that is sampled most frequently. Since aluminum concentrations increase with decreases in pH, pH alone may be a reasonable predictor of population status (Beggs and Gunn 1986).

Conservatively, we might judge that walleye populations in lakes of pH <= 5.5 are affected by acidification stress. There is also some evidence that populations in lakes with a pH between 5.5 and 6.0 may show signs of acidification stress. Lakes in the Comprehensive Data Set were divided into 3 pH classes: lakes with pH<=5.5, high probability of extirpation; lakes with pH 5.5-6.0 some probability of extirpation; and lakes with pH>6.0; acidification effects unlikely. We then extrapolated to the provincial total using the walleye atlas.

The proportion of walleye lakes in each of three pH classes (pH<=5.5, 5.5<pH<6.0, pH>=6.0) were calculated using the Comprehensive Data Set and extrapolated to the population of 'known' walleye lakes in each MNR administrative region (from the Walleye Atlas, (Table 6)). We

TABLE 6.

ESTIMATE OF THE NUMBER OF KNOWN WALLEYE LAKES
IN EACH OF 3 PH CLASSES-BY MNR REGION

REGION	%OF LAKES IN EACH pH CLASS (FROM THE COMP. DATA SET)			# WALLEYE LAKES (FROM THE WALLEYE ATLAS)	ESTIMATE OF # OF WALLEYE LAKES IN EACH pH CLASS		
	=<5.5	5.5-6.0	=>6.0		=<5.5	5.5-6.0	=>6.0
NW			100.0%	1405	0	0	1405
NC		0.6%	99.4%	885	0	5	880
N			100.0%	809	0	0	809
NE	1.3%	5.6%	93.1%	522	7	29	486
AL	2.5%	10.0%	86.5%	200	5	20	173
SE			100.0%	159	0	0	159
C		14.3%	85.7%	43	0	6	39
SW			****	15			15
				4038	12	60	3966

**** NO LAKES SAMPLED IN THIS REGION.

MNR ADMINISTRATIVE REGIONS
NW-NORTHWESTERN
NC-NORTHCENTRAL
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SW-SOUTHWESTERN

estimated that 12 lakes (0.3%) have a pH <=5.5 and have chemical conditions toxic to the early life stages of walleye. A further 60 lakes (1.5%) have pH between 5.5 and 6.0 and chemical conditions potentially toxic to walleye. These estimates can be compared to those for lake trout and brook trout. Beggs and Gunn (1986) estimated that 1.0% of the lake trout lakes have pH below the lake trout threshold of 5.2 and 1% of the brook trout lakes have pH below the brook trout threshold of 5.0. A listing of the walleye lakes in the Comprehensive Data Set along with their status with respect to pH toxicity is shown in appendix 1.

To determine the proportion of walleye lakes with low buffering capacity and therefore classified as acidic or in danger of future acidification stress, lakes were divided into two alkalinity classes. Lakes with alkalinity <= 0.0 mg/l are classifed as acidic, lakes with alkalinity of between 0.0 and 2.0 mg/l are classified as being extremely sensitive to acidification (MOE 1982). Dividing the lakes in the Comprehensive Data Set into alkalinity classes (alk<=0.0; 0.0<alk<2.0mg/l) and extrapolating as above, 79 (2%) of the known walleye lakes would be classified as extremely sensitive, having alkalinities between 0.0-2.0 mg/l (Table 7). One lake (Sturgeon lake) would be classified as acidic having an alkalinity of less than 0.0 mg/l. Of the sampled brook trout and lake trout lakes 26.3% and 16.8%, respectively have alkalinities of less than 2.0 mg/l (Beggs and Gunn, 1986).

TABLE 7.

ESTIMATE OF THE NUMBER OF KNOWN WALLEYE LAKES WITH ALKALINITIES < 2.0 mg/l

REGION	%OF LAKES WITH ALK<2.0 mg/L (FROM THE COMP. DATA SET)	# OF WALLEYE LAKES (FROM THE WALLEYE ATLAS)	ESTIMATE OF KNOWN # OF WALLEYE LAKES WITH ALK.<2.0 mg/L
NW	0.94%	1405	13
NC	0.00%	885	0
N	0.00%	809	0
NE	8.86%	522	46
AL	10.34%	200	21
SE	0.00%	159	0
C	0.00%	43	0
SW	****	15	0
PROVINCIAL TOTALS		4038	80

**** NO LAKES SAMPLED IN THIS REGION.

MNR ADMINISTRATIVE REGIONS
NW-NORTHWESTERN
NC-NORTHCENTRAL
N -NORTHERN
NE-NORTHEASTERN
AL-ALGONQUIN
SE-SOUTHEASTERN
C -CENTRAL
SW-SOUTHWESTERN

From these data, one may conclude that a much smaller proportion of Ontario's walleye lakes are at risk to acidic deposition than lakes containing lake trout and brook trout. However, since some walleye populations spawn in streams, knowledge of the lake water chemistry may not be adequate for assessment of the walleye resources at risk due to acidification.

To accurately estimate the walleye resource at risk to acidification, we need to locate walleye stream spawning sites and obtain water chemistry samples during base flow conditions. If streams are sensitive to acidification stress, then these sites should be sampled intensively during walleye spawning to determine if potentially toxic conditions exist. If pH drops below 6.0 at any site during the staye from spawning to movement of the young fish to the limnetic zone, an egg bioassay should be conducted at these sites the following year.

Recent cutbacks in smelter emissions have resulted in improvements in lake water chemistry in Sudbury area lakes (Keller and Pitblado 1986). Lake pH may now be above the toxic threshold for those lakes with walleye population losses (Table 2). Introduction of walleye to these lakes through stocking may now produce viable walleye populations. However, we may never replace the gene pool lost through extinction of these potentially unique walleye populations.

RECOMMENDED STRATEGY

-Identify spawning sites and locate sites likely sensitive to acidification stress by obtaining a chemical sample during a period when stream chemistry is unlikely to be affected by spring melt or summer high productivity and low water levels (i.e., collect samples in the fall, winter or after melt.

-Develop a plan to sample water chemistry of all low alkalinity sites (or a subset of the total) intensively during walleye spawning and egg incubation (i.e., every 3 days and after every major storm event for the period between spawning and embryo first feeding.

-If potentially toxic conditions exist conduct an egg incubation experiment at selected sites the following year.

- Estimate the pH threshold for walleye populations through assessment of native walleye populations.

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Appendix 1

Listing of sampled walleye lakes in Ontario, sorted by lake name within MNR administrative regions. Data fields include: latitude (LAT), longitude (LONG), MNR administrative district number (DISTRICT), lake surface area (AREA), year and month of the water sample collection, pH, Status of the population with respect to lake pH (RISK), alkalinity (ALK), total aluminum (AL), calcium (CA), dissolved organic carbon (DOC), and apparent colour (COLOUR).

Status of the walleye population with reference to lake pH;

** high probability of population extirpation

* some probability of population extirpation.

Parameter	units of measure
alkalinity	mg/l
aluminum	mg/l
calcium	mg/l
dissolved organic carbon	mg//l
apparent colour	hazen units
lake surface area	hectars

Alkalinity values below detection level are listed as '-99.99'. All other parameters with values below detection level are listed as '0.0'.

Missing data values are indicated with a '.'.

SAMPLED WALLEYE LAKES
PRINTED BY MNR REGION

REGION=NORTHWESTERN

LAKE	LAT	LONG	DISTRICT	AREA	YEAR	MONTH	PH	RISK	ALK	AL	CA	DOC	COLOUR
ABAMATEGWIA LAKE	4940	9154	13	1358.9	81	7	7.00		10.95	.	5.0	.	30
ABRAM LAKE	5004	9157	16	2397.6	78	8	7.39		18.90	.	.	.	.
AJAX LAKE	4920	9325	12	495.0	80	8	7.24		16.63	.	6.0	.	13
ANDY LAKE	4938	9404	14	163.0	78	8	7.40		24.70	.	.	.	.
ARMSTRONG LAKE	4958	9423	14	147.0	81	5	7.08		9.83	0.001	3.0	.	13
BALNE LAKE	4950	9409	14	41.0	81	5	6.79		8.39	0.071	3.0	.	82
BAMAJI LAKE	5109	9125	16	8385.1	81	7	7.23		21.98	.	8.0	.	40
BARRINGTON LAKE	5016	9018	16	1383.8	80	8	6.90		11.80	.	.	.	.
BARTON LAKE	5200	9406	15	3695.1	81	7	7.61		27.74	.	9.0	.	49
BEAK LAKE	4915	9216	13	520.0	81	5	7.05		9.18	0.008	5.0	.	16
BEARPAW LAKE	4907	9255	12	248.0	81	5	6.97		7.12	0.052	4.0	.	38

REGION=NORTHWESTERN

LAKE	LAT	LONG	DISTRICT	AREA	YEAR	MONTH	PH	RISK	ALK	AL	CA	DOC	COLOUR
BEAVERHOUSE LAKE	4934	9325	11	422.4	81	7	7.00		12.69	.	7.0	.	42
BENDING LAKE	4919	9208	13	950.0	81	9	6.95		7.33	0.030	3.0	.	12
BERNADINE LAKE	4906	9218	12	385.0	82	10	6.90		10.09	0.040	3.6	.	48
BLINDFOLD LAKE	4940	9415	14	496.5	78	8	6.89		8.60	.	.	.	.
BURDITT LAKE	4857	9346	12	1421.6	81	7	7.48		41.60	.	14.0	.	10
BUTTERFLY LAKE	4959	9205	16	136.1	78	8	7.61		43.00	.	.	.	.
CALIPER LAKE	4903	9355	12	720.9	78	8	7.42		30.50	.	.	.	.
CATASTROPHE LAKE	4954	9447	14	287.6	78	8	6.80		6.65	.	.	.	.
CATHERINE LAKE	4951	9448	14	87.9	78	8	6.59		7.40	.	.	.	.
CEDAR LAKE	5009	9308	11	2990.0	80	8	7.98		44.37	.	13.0	.	15
CLAY LAKE	5003	9330	11	3090.2	80	8	7.70		35.70	.	.	.	.
CLIFF LAKE	5010	9318	11	2544.0	80	8	7.67		35.53	.	6.0	.	9
COBBLE LAKE	4953	9337	11	1181.8	81	7	7.24		18.36	.	6.0	.	15
CYGNET LAKE	5000	9453	14	1355.6	81	7	7.25		16.55	.	5.0	.	39
DELANEY LAKE	5005	9403	14	1303.0	80	6	7.46		13.83	0.026	4.0	.	7
DIBBLE LAKE	4913	9200	13	1163.9	81	7	7.02		7.19	.	4.0	.	17
DINORWIC LAKE	4937	9233	11	5169.1	78	8	7.58		12.90	.	.	.	.
DIXIE LAKE	5049	9342	15	425.3	78	8	6.99		6.45	.	.	.	.
DORE LAKE	4937	9249	11	998.6	81	7	7.48		23.37	.	8.0	.	22
DUMPY LAKE	5019	9404	14	352.0	80	6	7.09		17.69	0.033	6.0	.	21
EADY LAKE	5007	9050	13	460.5	81	7	6.45		6.41	.	4.0	.	71
EAGLE LAKE	4942	9313	11	27712.9	78	8	7.21		14.45	.	.	.	.
ELGA LAKE	5026	9018	16	97.4	80	8	6.10		1.90	.	.	.	.
ENCAMP LAKE	4916	9106	13	475.0	80	9	7.53		21.10	0.008	7.0	.	25
ENGLISH LAKE	4940	9109	13	108.9	81	7	6.93		12.15	.	5.0	.	68
FEIST LAKE	4948	9350	11	493.0	81	5	6.96		8.64	0.007	2.0	.	8
FISHTRAP LAKE	4904	9247	12	283.0	81	5	7.01		6.76	0.044	4.0	.	21
FLET LAKE	5022	9013	16	192.9	80	9	6.90		13.80	.	.	.	.
GODSON LAKE	4936	9246	11	261.8	78	8	7.22		18.20	.	.	.	.
GRANITE LAKE	4942	9451	14	141.8	78	8	7.11		10.95	.	.	.	.
GULLWING LAKE	4955	9235	11	2428.7	81	8	8.09		59.30	.	.	.	.
HARTMAN LAKE	4945	9226	11	506.1	80	8	7.65		41.30	.	.	.	.
HAWK LAKE	4947	9359	14	958.0	81	5	6.88		8.55	0.040	3.0	.	11
HEAFUR LAKE	5020	9018	16	369.1	80	8	7.05		12.10	.	.	.	.
HEATHCOTE LAKE	5017	9021	16	1185.0	80	8	7.25		12.70	.	.	.	.
HIGHBALL LAKE	5024	9133	16	318.9	80	8	7.45		26.60	.	.	.	.
INDIAN LAKE	4934	9140	13	3965.8	81	7	7.48		21.79	.	7.0	.	12
INDIAN LAKE	5014	9405	14	1839.8	81	6	7.58		39.90	.	12.0	.	39
ISLAND LAKE	4948	9420	14	331.3	78	8	7.04		13.05	.	.	.	.
KILVERT LAKE	4942	9402	14	974.0	81	5	7.09		9.53	0.015	3.0	.	17
KINEMAN LAKE	4902	9243	12	352.0	81	5	7.03		6.80	0.028	3.0	.	25
KORPI LAKE	4904	9256	12	165.0	81	5	7.37		18.41	0.043	9.0	.	33
LAKE DESPAIR	4852	9340	12	912.1	81	7	7.47		43.10	.	14.0	.	28
LAKE HOPE	4851	9337	12	191.0	81	5	7.36		14.72	0.055	5.0	.	23
LAVAL LAKE	4948	9227	11	286.3	78	8	7.69		27.90	.	.	.	.
LINGE LAKE	5115	9418	15	843.2	81	7	7.00		9.83	.	3.0	.	24
LITTLE GREEN LAKE (NL)	4940	9327	11	132.8	80	7	7.63		13.40	.	.	.	.
LITTLE TURTLE LAKE	4847	9240	12	2226.7	81	7	6.98		9.56	.	3.0	.	70
LONG LAKE	4955	9449	14	400.2	78	8	6.83		11.10	.	.	.	.
LOUNT LAKE	5010	9419	14	3014.4	81	6	7.74		37.80	.	12.0	.	41
MALACHI LAKE	4953	9500	14	1084.6	81	7	7.18		12.75	.	4.0	.	19
MANG LAKE	4912	9253	12	166.1	81	8	6.53		8.30	.	.	.	.
MANION LAKE	4854	9219	12	1120.0	79	6	7.00		11.00	0.400	3.0	.	15

REGION=NORTHWESTERN

LAKE	LAT	LONG	DISTRICT	AREA	YEAR	MONTH	PH	RISK	ALK	AL	CA	DOC	COLOUR
OFF LAKE	4854	9349	12	459.3	78	8	7.70		44.05	.	.	.	.
OTATAKAN LAKE	5051	9150	16	1515.0	81	7	7.36		27.58	.	10.0	.	102
PAN LAKE	4916	9313	12	128.0	81	5	6.47		5.15	0.076	3.0	.	48
PELICAN LAKE	5007	9158	16	2343.3	81	7	7.56		25.77	.	9.0	.	33
PEPPERBELL LAKE	4958	9130	16	389.2	81	7	7.24		18.92	.	7.0	.	59
PERRAULT LAKE	5018	9308	11	3312.9	80	8	8.29		56.30	.	.	.	.
PETTIT LAKE	4857	9216	12	1178.0	82	10	7.13		9.14	0.050	3.3	.	21
PICKWICK LAKE	4900	9306	12	492.5	81	7	7.14		24.35	.	10.0	.	37
PRIDE LAKE	5025	9024	16	93.7	80	8	7.35		19.70	.	.	.	.
PRITCHARD LAKE	4943	9255	11	40.8	78	8	7.51		29.65	.	.	.	.
RED DEER LAKE	5001	9410	14	458.0	80	6	7.49		10.87	0.009	4.0	.	1
REDPATH LAKE	5150	9117	16	1137.4	80	8	7.40		27.90	.	.	.	.
ROUTE LAKE	5004	9238	11	1136.3	80	8	7.55		29.60	.	.	.	.
ROWAN LAKE	4918	9332	14	5475.3	81	7	7.21		22.20	.	8.0	.	8
RUGBY LAKE	4957	9257	11	985.1	80	8	8.39		41.90	.	.	.	.
SAND LAKE	5005	9439	14	7965.2	81	6	7.59		48.60	.	14.0	.	28
SAVOY LAKE	4916	9101	13	570.0	80	9	7.23		12.50	0.028	5.0	.	40
SCHISTOSE LAKE	4910	9337	12	344.7	81	7	7.82		59.40	.	20.0	.	11
SCOTTY LAKE	5021	9404	14	749.0	80	6	7.17		14.83	0.014	4.0	.	28
SILVER LAKE	4953	9411	14	2550.0	80	8	7.53		11.70	.	3.0	.	4
SILVER LAKE	5025	9022	16	158.6	80	8	7.00		18.60	.	.	.	.
SNOWSHOE LAKE	5034	9507	14	1351.9	81	7	6.84		9.93	.	4.0	.	34
SOMDEN LAKE	4932	9112	13	3721.5	81	7	7.05		13.92	.	5.0	.	73
STEWART LAKE (EAST)	4948	9345	11	244.0	81	5	7.01		8.57	0.028	4.0	.	25
STONE LAKE	5026	9130	16	220.6	80	8	7.30		29.20	.	.	.	.
STOUT LAKE	5208	9435	15	11355.1	81	7	7.33		28.04	.	9.0	.	56
STRONG LAKE	4858	9312	12	350.7	81	7	7.00		10.95	.	5.0	.	30
SUMACH LAKE	5035	9358	15	725.0	81	7	7.36		23.12	.	7.0	.	19
SUP LAKE	5017	9333	11	679.5	80	8	7.97		38.50	.	.	.	.
SYDNEY LAKE	5041	9425	15	2271.0	80	6	7.39		13.81	0.020	5.0	.	18
TESUP LAKE	4856	9231	12	328.0	81	5	6.55		4.13	0.100	2.0	.	50
THUNDER LAKE	4947	9240	11	1123.8	78	8	7.69		32.50	.	.	.	.
TIDE LAKE	5020	9358	14	1351.2	81	6	7.59		48.60	.	12.0	.	34
TRAPLINE LAKE	5030	9457	14	364.5	81	7	6.78		7.35	.	3.0	.	34
TROUT LAKE	4947	9408	14	314.0	81	5	6.87		6.39	0.010	3.0	.	14
VIRGINIAN LAKE	5025	9020	16	207.2	80	8	7.10		20.10	.	.	.	.
WABAZIKASKWI LAKE	4936	9110	13	695.3	81	7	7.15		11.91	.	4.0	.	74
WABIGOON LAKE	4944	9244	11	9930.6	78	8	7.81		35.00	.	.	.	.
WAPESI LAKE	5034	9221	16	2368.2	81	7	7.57		29.56	.	10.0	.	92
WHITEWATER LAKE	4859	9244	12	352.0	81	5	6.91		6.66	0.040	3.0	.	28
WILKIE LAKE	5024	9015	16	520.4	80	9	6.65		6.60	.	.	.	.
ZARN LAKE	5003	9135	16	1256.7	81	7	7.62		27.70	.	9.0	.	15

SAMPLED WALLEYE LAKES
PRINTED BY MNR REGION

REGION=NORTH CENTRAL

LAKE	LAT	LONG	DISTRICT	AREA	YEAR	MONTH	PH	RISK	ALK	AL	CA	DOC	COLOUR
AGNES LAKE	4815	9120	21	3302.0	82	10	6.92		5.80	0.020	2.6	.	6.0
AGONZON LAKE	4901	8550	24	149.5	81	7	7.48		51.30	.	.	.	.
ALLELY LAKE	4937	9020	25	684.1	81	7	6.95		14.30	.	.	.	.
ARAMIS LAKE	4844	9123	21	122.3	78	8	7.13		8.55	.	.	.	.
ARROW LAKE	4809	9016	25	3316.9	80	8	7.90		32.60	.	.	.	.
BADWATER LAKE	4829	9157	21	192.8	78	7	6.56		5.10	.	.	.	.
BALLARD LAKE	4818	9149	21	112.6	78	7	6.62		4.47	.	.	.	.
BANNING LAKE	4845	9158	21	254.5	78	8	6.83		13.10	.	.	.	.
BART LAKE	4812	9141	21	164.0	81	5	6.96		5.51	0.021	3.0	.	14.0
BATCHEWAUNG LAKE	4840	9130	21	1275.3	78	7	6.59		4.92	.	.	.	.
BATISE LAKE	4947	8543	22	63.2	84	2	7.87		75.10	0.009	23.3	14.1	71.0
BATWING LAKE	4826	9010	25	624.7	80	7	6.90		9.80	.	.	.	.
BEARPELT LAKE	4829	9202	21	223.6	81	9	7.01		9.37	0.045	2.0	.	32.0
BEAVERHOUSE LAKE	4833	9206	21	2010.0	82	10	6.91		6.24	0.040	2.4	.	11.0
BICKNELL LAKE	4950	8539	22	175.2	84	2	7.65		71.80	0.013	21.8	12.7	52.5
BLACK STURGEON LAKE	4920	8853	23	5062.5	81	6	7.04		31.60	.	.	.	.
BOUND LAKE	4927	8521	24	245.8	81	7	7.83		57.20	.	.	.	.
BREWER LAKE	4817	9158	21	102.1	78	7	7.02		15.40	.	.	.	.
BULLMOOSE LAKE	4829	9220	21	128.0	81	5	7.08		16.11	0.210	2.0	.	96.0
BURCHELL LAKE	4835	9038	25	1074.0	80	7	7.82		24.18	.	12.0	.	5.0
BURNESS LAKE (RAVEN)	5103	8727	22	342.9	80	6	7.37		28.60	.	.	.	.
CALM LAKE	4846	9204	21	2482.8	78	8	7.10		13.35	.	.	.	.
CASTLEBAR LAKE	4949	8603	22	880.0	79	7	8.00		.	0.030	30.0	.	15.0
CEDAR LAKE	4842	8548	24	452.0	79	5	7.80		.	.	14.0	.	5.0
CHORUS LAKE	4915	8709	24	228.5	81	6	7.34		23.00	.	.	.	.
CHOWDER LAKE	4947	8547	22	263.6	81	7	7.92		73.20	.	.	.	.
CIRRUS LAKE	4837	9155	21	2114.9	78	7	6.41		4.71	.	.	.	.
CLOUD LAKE	4808	8932	25	421.2	81	7	6.88		20.80	.	.	.	.
CLUB LAKE	4956	8609	22	247.1	84	2	8.07		100.10	0.004	30.2	11.4	53.0
COMPANION LAKE	4854	9114	21	540.0	82	10	6.76		7.71	0.040	3.6	.	59.0
CORNISH LAKE	4913	8634	24	168.0	80	6	7.41		31.30	.	.	.	.
CROOKED LAKE	4812	9149	21	3216.3	81	5	7.38		15.75	.	.	.	.
CROOKED PINE LAKE	4847	9104	21	1859.0	82	10	7.40		18.53	0.010	7.4	.	25.0
CRYSTAL LAKE	4842	9117	21	35.0	82	10	7.04		7.72	0.010	2.6	.	7.0
D'ORSONNENS LAKE	5054	8813	23	411.0	80	6	7.99		76.80	.	.	.	.
DARBY LAKE	4836	9208	21	91.0	80	5	6.48		3.51	0.150	3.0	.	30.0
DARKY LAKE	4818	9147	21	498.2	78	7	6.61		4.12	.	.	.	.
DECOURCEY LAKE	4859	8914	25	720.0	79	7	7.20		.	.	6.0	.	20.0
DEXTER LAKE	4848	9000	25	391.0	80	3	6.57		13.81	0.010	5.0	.	70.0
DRIFT LAKE	4841	9004	25	145.0	80	3	6.81		12.62	0.011	6.0	.	70.0
DUNC LAKE	4843	8542	24	227.8	78	8	7.79		32.60	.	.	.	.
EABAMET LAKE	5132	8746	22	10302.5	80	6	7.51		37.70	.	.	.	.
ELI LAKE (NL)	5013	8635	22	76.6	84	2	7.99		89.20	0.008	27.4	14.6	65.5
ESNAGAMI LAKE	5019	8650	22	7234.6	80	6	7.98		71.00	.	.	.	.
EVONYMUS LAKE	4925	8641	22	256.4	81	7	8.01		87.00	.	.	.	.
FACTOR LAKE	4842	9203	21	630.2	78	8	6.90		8.15	.	.	.	.
FIELDS LAKE	4918	8522	24	162.8	84	2	7.92		105.20	0.009	30.8	9.2	35.5
FINLAYSON LAKE	4855	9134	21	1436.1	78	7	7.22		13.75	.	.	.	.
FINLAYSON LAKE	4934	8703	22	125.2	84	2	8.03		95.20	0.064	30.4	9.5	36.0
FLANDERS LAKE	4921	8523	24	238.1	84	2	7.94		106.30	0.011	31.1	.	50.5
FLATROCK LAKE	4818	9013	25	321.0	81	7	6.60		7.30	.	.	.	.
FLYNNE LAKE	4948	8543	22	73.9	84	2	7.99		79.70	0.006	23.7	14.4	70.0
FRANK LAKE	5010	8753	23	482.1	80	7	8.06		44.40	.	.	.	.

REGION=NORTH CENTRAL

LAKE	LAT	LONG	DISTRICT	AREA	YEAR	MONTH	PH	RISK	ALK	AL	CA	DOC	COLOUR
FRENCH LAKE	4840	9109	21	340.0	80	2	6.706		7.86	0.037	3.0	.	30.0
GARHAM LAKE	4901	8529	24	673.4	80	6	7.800		46.20	.	.	.	.
GOLDFIELD LAKE	4939	8704	22	181.4	84	2	7.760		93.10	0.200	30.5	11.9	46.0
GRANITE LAKE	5029	8946	23	1811.9	81	6	6.870		9.40	.	.	.	.
GREHAN LAKE	4929	8637	22	232.4	81	7	8.380		112.80	.	.	.	.
GULLIVER LAKE	4910	9119	21	1532.0	82	10	6.740		4.74	0.020	2.0	.	22.0
GUNTER LAKE	4954	8951	25	212.4	80	7	6.320		6.00	.	.	.	.
HARP LAKE	4953	8616	22	47.1	84	2	8.260		138.70	0.002	38.7	2.5	2.5
HAVOC LAKE	4953	8903	23	468.9	80	7	8.600		89.80	.	.	.	.
HAZELWOOD LAKE	4835	8919	25	326.0	80	10	7.090		10.82	0.043	5.0	.	68.0
HOGARTH LAKE	4908	9025	25	347.9	81	6	7.250		27.80	.	.	.	.
HORSESHOE LAKE (NL)	4916	8525	24	17.8	84	2	7.720		105.80	0.015	30.8	10.0	50.5
HUTCHISON LAKE	4947	8657	22	215.5	80	6	8.100		80.90	.	.	.	.
ICY LAKE	4850	9132	21	96.1	78	7	7.680		53.50	.	.	.	.
IRON RANGE LAKE	4811	9020	25	233.2	81	7	7.870		45.30	.	.	.	.
ISLINGTON LAKE	4909	8639	24	121.9	81	6	7.640		56.40	.	.	.	.
JACKFISH LAKE	4850	8657	24	115.7	78	8	7.310		27.00	.	.	.	.
JOLLY LAKE	4910	8927	25	96.9	80	8	7.600		27.40	.	.	.	.
JUNGFRAU LAKE	5039	8646	22	471.3	80	6	7.640		50.00	.	.	.	.
KASSAGIMINI LAKE	4943	8553	22	242.2	84	2	7.870		86.70	0.016	26.6	13.2	55.0
KECKUSH LAKE	4857	9115	21	136.9	78	7	6.600		7.85	.	.	.	.
KENOGAMISIS LAKE	4942	8653	22	4168.4	78	8	7.750		53.50	.	.	.	.
KENOJI LAKE	5044	8937	23	983.9	81	6	6.870		12.60	.	.	.	.
KERSHAW LAKE	4950	8952	25	228.7	81	6	6.370		6.10	.	.	.	.
KETCHUP LAKE	4853	8535	24	63.2	85	2	7.373		72.99	0.004	24.2	11.1	.
KLOTZ LAKE	4948	8552	22	830.7	78	8	7.800		73.50	.	.	.	.
KOSS LAKE	4819	9033	25	373.0	80	10	6.820		8.28	0.079	7.0	.	98.0
LAC DES MILLE LACS	4850	9030	25	25390.0	80	10	7.460		16.69	0.049	6.0	.	63.0
LEGRIS LAKE	4908	8928	25	352.7	81	7	7.130		23.20	.	.	.	.
LEROME LAKE	4844	9144	21	290.0	79	6	7.200		13.00	0.083	5.0	.	30.0
LIGHT LAKE	4857	9119	21	250.0	82	10	6.810		8.78	0.040	4.5	.	67.0
LITTLE ATHELSTANE LAKE	4845	9015	25	225.2	78	8	7.430		13.75	.	.	.	.
LITTLE BICKNELL LAKE	4949	8539	22	71.5	84	2	7.740		100.20	0.011	29.9	13.8	51.5
LITTLE DOG LAKE	4839	8936	25	91.8	79	8	7.400		21.90	.	.	.	.
LITTLE MCCAULAY LAKE	4844	9154	21	81.8	78	7	6.940		13.40	.	.	.	.
LOKEN LAKE	4913	8537	24	117.5	80	6	7.150		51.60	.	.	.	.
MACUTAGON LAKE	4906	8529	24	149.0	81	7	7.380		51.70	.	.	.	.
MAKING GROUND LAKE	4933	8640	22	69.0	84	2	7.620		67.60	0.027	21.7	14.0	62.5
MANITOUWADGE LAKE	4908	8548	24	187.1	80	5	7.280		51.10	.	.	.	.
MARGRET LAKE	4927	8726	23	262.5	81	6	7.580		45.80	.	.	.	.
MARION LAKE	4841	9115	21	460.0	82	10	6.780		5.72	0.040	2.4	.	24.0
MARMION LAKE	4853	9131	21	10523.8	78	7	7.680		33.55	.	.	.	.
MARTINET LAKE	4854	8627	24	159.4	81	6	7.140		14.40	.	.	.	.
MCBEAN LAKE	4938	8635	22	241.2	81	7	7.910		58.30	.	.	.	.
MCQUESTEN LAKE	4950	8654	22	72.1	84	2	7.820		88.90	0.010	29.2	10.2	31.0
MELEMA LAKE	4850	9115	21	254.3	78	7	6.770		9.85	.	.	.	.
METIONGA LAKE	4943	9028	25	2029.5	80	7	6.860		12.60	.	.	.	.
MINN LAKE	4821	9153	21	506.0	81	9	6.690		4.34	0.045	2.0	.	29.0
MOJIKIT LAKE	5040	8815	23	10691.2	81	6	7.450		25.60	.	.	.	.
MOOSE LAKE	4850	9135	21	64.8	78	7	7.640		55.00	.	.	.	.
MOOSESKULL LAKE	4916	8530	24	100.0	84	2	7.910		98.40	0.011	29.3	8.0	27.5
NAPPER LAKE	5058	8810	23	130.7	80	6	7.420		29.60	.	.	.	.
NELSON LAKE	4827	9032	25	665.0	81	5	7.030		9.06	.	.	.	.

REGION=NORTH CENTRAL

LAKE	LAT	LONG	DISTRICT	AREA	YEAR	MONTH	PH	RISK	ALK	AL	CA	DOC	COLOUR
NIOBE LAKE	4843	9120	21	396.0	82	10	6.820		8.12	0.010	3.9	.	46.0
NORTH LAKE	4807	9032	25	1047.0	80	10	7.660		38.18	0.007	14.0	.	11.0
NORTH TWIN LAKE	4851	9137	21	49.7	78	7	8.630		73.50	.	.	.	.
NORTHERN LIGHT LAKE	4816	9039	25	6620.0	80	9	6.950		9.40	0.046	5.0	.	70.0
NYDIA LAKE	4844	9104	21	550.0	81	7	6.650		7.60	.	.	.	.
NYM LAKE	4842	9126	21	1840.0	82	10	6.770		4.74	0.050	2.0	.	19.0
O'SULLIVAN LAKE	5025	8702	22	4292.5	84	2	8.190		88.50	0.000	25.2	6.4	15.5
OBOBKA LAKE	5005	8621	22	259.2	84	2	7.940		70.10	0.006	22.4	14.6	74.0
OBONGA LAKE	4957	8922	23	3581.0	80	8	7.390		16.60	.	.	.	.
OGAHALLA LAKE	5001	8606	22	241.5	84	2	8.020		87.60	0.003	25.8	11.0	46.5
OLIVER LAKE	4816	8935	25	240.0	79	7	6.800		.	.	6.0	.	5.0
OMEME LAKE	4830	9200	21	126.0	81	9	6.790		6.25	0.040	3.0	.	28.0
ONAMAN LAKE	5000	8726	23	10846.2	81	6	7.570		28.60	.	.	.	.
ONION LAKE	4840	8909	25	254.3	79	8	5.900	*	10.40	.	.	.	.
ORIANA LAKE	4835	9140	21	410.0	82	10	6.570		5.19	0.050	2.6	.	24.0
OTHER MAN LAKE	4812	9109	21	188.0	81	5	7.910		44.66	0.001	18.0	.	12.0
PAGWACHUAN LAKE	4943	8606	22	2716.9	80	6	8.070		94.70	.	.	.	.
PAKASHKAN LAKE	4922	9015	25	4740.8	81	6	7.180		25.00	.	.	.	.
PAYS PLAT LAKE	4857	8730	24	264.9	84	2	7.115		8.69	0.160	4.8	8.9	51.0
PEANUT LAKE	4948	8542	22	21.4	84	2	7.870		75.00	0.012	24.0	14.1	71.0
PEKAGONING LAKE	4909	9211	21	1590.0	82	10	6.970		6.39	0.010	2.5	.	16.0
PERCH LAKE	4814	8908	25	80.0	80	3	7.050		21.92	0.180	11.0	.	15.0
PICKEREL LAKE	4837	9119	21	6510.0	82	10	6.850		6.53	0.010	2.8	.	22.0
PICKETT LAKE	5047	8842	23	224.4	81	6	6.880		19.20	.	.	.	.
PICKLE LAKE	4856	8535	24	179.6	85	2	7.443		58.96	0.011	19.9	11.5	.
POPPY LAKE	4917	8522	24	140.1	80	6	7.170		67.90	.	.	.	.
POSHKOKAGAN LAKE	4916	8918	25	1043.3	80	3	7.300		26.80	.	.	.	.
POVERTY LAKE	5017	8616	22	251.5	84	2	7.880		73.80	0.012	24.3	16.2	88.0
PRELATE LAKE	4811	9024	25	149.9	79	7	6.700		13.30	.	.	.	.
PREMIER LAKE	4900	9118	21	54.7	78	7	6.860		13.95	.	.	.	.
QUETICO LAKE	4834	9155	21	4264.7	78	7	6.850		6.20	.	.	.	.
RADIO LAKE	4930	9016	25	344.1	80	7	6.750		8.20	.	.	.	.
RAWN LAKE	4834	9115	21	367.0	82	10	6.450		4.49	0.080	2.3	.	64.0
REDSAND LAKE	4948	9004	25	386.7	80	7	6.300		2.60	.	.	.	.
RELIEF LAKE	5015	8616	22	223.6	84	2	7.560		93.90	0.020	29.5	10.5	35.5
RINKER LAKE	4911	8926	25	134.8	79	8	7.050		19.20	.	.	.	.
ROBINSON LAKE	4811	9139	21	427.0	82	10	6.710		4.00	0.020	1.6	.	5.0
ROSS LAKE	4822	9056	25	318.0	81	11	6.730		7.34	.	4.0	.	41.0
ROUNDTABLE LAKE	4813	9010	25	106.7	79	8	6.600		24.10	.	.	.	.
ROUS LAKE	4841	8601	24	153.9	81	6	7.350		18.80	.	.	.	.
SANTOY LAKE	4852	8653	24	994.7	81	6	7.300		42.80	.	.	.	.
SASSAFRAS LAKE	4951	9031	25	313.8	81	7	6.780		10.90	.	.	.	.
SAUERBREI LAKE	4916	8929	25	572.0	81	10	6.860		9.87	.	4.0	.	32.0
SAUNDERS LAKE (NL)	4842	8455	26	43.7	84	2	7.233		.	0.052	7.0	8.8	29.5
SHUDGE LAKE	4839	9141	21	44.6	78	7	6.450		3.94	.	.	.	.
SOHO LAKE	4839	9145	21	270.9	78	7	6.750		4.97	.	.	.	.
STARK LAKE	5153	8742	22	393.1	80	6	7.350		28.70	.	.	.	.
STURGE LAKE	4907	8851	23	940.0	80	5	7.800		38.28	.	28.0	.	63.0
STURGEON LAKE	4829	9138	21	4670.0	82	10	7.020		10.46	0.090	4.6	.	55.0
SUPERB LAKE	5030	8659	22	625.9	84	2	8.120		94.70	0.008	27.3	9.7	35.0
THERESA LAKE (NL)	4850	8544	24	251.8	81	6	7.730		43.40	.	.	.	.
THIS MAN LAKE	4810	9112	21	320.0	80	2	7.409		35.23	0.013	16.0	.	5.0
THOMPSON LAKE	4823	9216	21	954.8	81	7	6.880		10.20	.	.	.	.

REGION=NORTH CENTRAL

LAKE	LAT	LONG	DISTRICT	AREA	YEAR	MONTH	PH	RISK	ALK	AL	CA	DOC	COLOUR
TILIA LAKE	4959	8631	22	96.2	80	6	8.08		87.50	.	.	.	.
TITMARSH LAKE	4822	9032	25	981.0	80	10	7.15		10.39	0.048	4.0	.	23.0
TORONTO LAKE	5021	8748	23	983.6	80	7	7.30		37.70	.	.	.	.
TROUTFLY LAKE	5142	8853	22	1307.5	80	6	8.25		100.90	.	.	.	.
TRUAX LAKE	5002	8626	22	87.8	84	2	7.90		74.70	0.017	23.1	14.1	64.5
UPPER ROSLYN LAKE	4915	8729	23	1034.1	81	8	7.70		27.80	.	.	.	.
UPPER SCOTCH LAKE	4910	9110	21	1310.0	82	10	6.79		5.66	0.020	3.0	.	33.0
WABIKOBA LAKE	4847	8545	24	278.6	80	7	8.28		62.60	.	.	.	.
WARNER LAKE	4843	9206	21	188.3	78	8	6.64		8.95	.	.	.	.
WASHI LAKE	5124	8702	22	2658.7	80	6	7.50		41.80	.	.	.	.
WAWANG LAKE	4925	9034	25	2005.0	79	10	6.60		16.95	0.020	1.6	.	15.0
WEAVER LAKE	4934	9010	25	1370.3	80	7	6.60		11.90	.	.	.	.
WEIKWABINONAW LAKE	4819	9023	25	1360.0	80	10	7.10		9.43	0.039	5.0	.	53.0
WHITE OTTER LAKE	4907	9152	21	9080.0	82	10	7.13		8.69	0.010	3.1	.	6.0
WHITE OTTER LAKE	4928	8533	24	407.9	80	6	7.78		76.20	.	.	.	.
WHITEFISH LAKE	4813	9000	25	2978.0	81	5	7.84		39.28	0.041	12.0	.	19.0
WILDGOOSE LAKE	4944	8711	22	1739.9	78	8	7.60		60.00	.	.	.	.
WINDIGOOSTIGWAN LAKE	4843	9057	25	1120.0	82	10	6.76		6.44	0.050	3.0	.	34.0
WOLF LAKE (NL)	4852	8840	25	224.0	79	8	7.85		90.90	.	.	.	.

SAMPLED WALLEYE LAKES
PRINTED BY MNR REGION

REGION=NORTHEASTERN

LAKE	LAT	LONG	DISTRICT	AREA	YEAR	MONTH	PH	RISK	ALK	AL	CA	DOC	COLOUR
SMOOTHWATER LAKE	4724	8041	46	912.5	81	7	5.840	*	0.21	0.054	3.0	1.0	-3.2
SOUTH HAMMER LAKE	4823	8506	47	125.6	85	2	7.098		24.09	0.009	8.8	6.1	.
STURGEON LAKE	4633	7925	43	64.0	85	2	5.095	*	-99.99	0.232	2.1	7.1	.
SUNDERLAND LAKE (GREATER)	4902	8515	47	77.6	85	2	7.544		64.81	0.000	20.4	7.1	.
SUTHERLAND LAKE	4818	8444	47	77.8	85	2	7.027		23.70	0.099	11.6	12.1	.
SWINN LAKE	4619	8327	41	135.7	81	6	7.200		19.80	.	.	.	.
TEASDALE LAKE	4629	8230	41	131.6	80	8	7.800		17.50	.	.	.	.
TENT LAKE	4651	7945	46	53.2	79	7	6.800		9.10	.	.	.	.
THREE NARROWS LAKE	4605	8127	45	948.1	81	7	5.700	*	0.25	0.072	2.8	2.5	9.5
TILDEN LAKE	4637	7939	43	479.5	85	2	6.289		2.05	0.105	3.4	8.2	.
TOCHERI LAKE (SHEILA)	4903	8509	47	865.6	85	2	7.276		84.24	0.002	26.5	9.2	.
TROUT LAKE	4618	7920	43	1674.7	82	5	7.066		8.99	.	4.8	.	15.5
UNIVERSITY LAKE	4823	8510	47	286.7	85	2	7.023		35.88	0.031	12.7	8.2	.
UPPER STURGEON LAKE	4608	8036	45	103.9	79	9	6.720		5.60	.	.	.	.
VALENTINE LAKE	4853	8510	47	55.7	85	2	7.467		71.68	0.003	23.4	13.4	.
VERMILION LAKE	4630	8126	45	1079.0	82	5	6.998		.	.	6.9	.	36.1
WABAGISHIK LAKE	4618	8135	42	570.0	79	5	7.040		10.50	.	.	.	.
WABATONGUSHI LAKE	4826	8413	47	3790.8	78	8	7.710		31.05	.	.	.	.
WALKER LAKE	4612	8130	42	339.6	80	9	6.920		3.40	.	.	.	.
WALKER LAKE	4649	8420	44	34.3	78	8	6.560		4.68	.	.	.	.
WASHAGAMI LAKE	4642	8028	45	269.6	80	3	5.480	*	0.10	.	.	.	.
WEST KABENUNG LAKE	4816	8503	47	1557.8	80	8	6.890		12.70	.	.	.	.
WHITE LAKE	4847	8537	47	5892.9	80	8	7.990		62.30	.	.	.	.
WHITEFISH LAKE	4801	8428	47	1822.5	80	8	7.230		21.70	.	.	.	.
WHITEWATER LAKE	4632	8109	45	945.2	79	5	7.540		28.75	.	.	.	.
WICKSTEED LAKE	4646	7940	43	1313.7	80	8	6.850		8.10	.	.	.	.
WINDY LAKE	4636	8127	45	1112.0	81	7	6.530		1.86	0.020	3.4	2.5	13.5
WISTIWASING LAKE	4608	7913	43	628.2	82	5	7.200		10.53	.	4.6	.	65.6

REGION=NORTHERN

LAKE	LAT	LONG	DISTRICT	AREA	YEAR	MONTH	PH	RISK	ALK	AL	CA	DOC	COLOUR
ABIMATINU LAKE	4933	8135	32	167.2	84	1	7.648		23.93	0.063	9.20	18.4	155.7
ABRAM LAKE	4946	8414	34	84.2	84	2	8.350		105.30	0.003	30.10	6.6	15.0
AHMABEL LAKE	4936	8456	34	162.8	84	2	7.370		133.60	0.018	42.10	12.6	68.0
AITKEN LAKE	4848	8155	35	81.4	84	2	7.867		42.96	0.015	14.50	12.7	66.5
ALLAN LAKE	4941	8245	35	712.2	85	5	7.710		47.93	0.154	15.45	.	.
ARMITAGE LAKE	4911	8459	34	113.5	84	2	7.550		73.80	0.007	22.80	10.4	42.0
AXE LAKE (NL)	4929	8434	34	20.6	84	2	7.820		123.90	0.004	37.60	6.4	14.5
BANKS LAKE	4947	8359	34	94.0	84	2	8.050		92.85	0.006	27.00	10.6	47.4
BAY LAKE	4936	8220	35	65.6	84	1	7.788		48.81	0.063	15.70	18.2	143.9
BEAR LAKE	4807	7938	36	116.8	81	8	7.700		18.00	.	.	.	.
BEAUCAGE LAKE	4813	8153	38	55.4	84	2	7.818		39.58	0.026	13.10	9.2	59.7
BEAVERHOUSE LAKE	4811	7944	36	226.9	81	7	7.640		18.90	.	.	.	.
BENNET LAKE	4948	8218	35	95.6	84	1	8.495		154.18	0.150	43.40	6.3	21.5
BIG INDIAN LAKE (NL)	4923	8147	32	55.8	84	1	8.255		102.70	0.035	29.20	11.3	67.5
BIGGS LAKE	4759	8242	31	341.9	80	8	6.650		11.10	.	.	.	.
BIGWATER LAKE	4837	8118	38	186.6	80	7	7.250		48.40	.	.	.	.
BLAIR LAKE	4751	8125	33	245.0	84	2	.		.	0.007	.	10.0	45.8
BOLKOW LAKE	4810	8353	31	371.3	85	2	6.931		12.81	0.120	6.28	8.3	.
BOURINOT LAKE	4905	8300	35	132.8	80	7	7.250		68.70	.	.	.	.

REGION=NORTHERN

LAKE	LAT	LONG	DISTRICT	AREA	YEAR	MONTH	PH	RISK	ALK	AL	CA	DOC	COLOUR
JUNCTION LAKE	4758	8104	36	51.8	84	2	7.813		36.45	0.021	12.30	9.2	37.7
KABINAKAGAMI LAKE	4854	8425	34	12026.1	80	7	7.700		57.20	.	.	.	.
KAPUSKASING LAKE	4830	8257	31	1870.7	80	8	7.750		49.10	.	.	.	.
KASASWAY LAKE (UPPER)	4757	8156	33	131.7	84	2	8.102		67.08	0.006	21.00	3.4	9.5
KATAGI LAKE	4754	8159	33	247.6	84	2	7.283		10.69	0.073	5.00	8.9	59.5
KATHLEEN LAKE	4759	8355	31	517.0	85	2	7.262		21.49	0.019	8.10	5.4	.
KATODAMA LAKE	4751	8148	33	162.7	80	5	6.850		36.70	.	.	.	.
KEENOA LAKE	4859	8228	35	409.1	80	6	7.100		36.80	.	.	.	.
KEITH LAKE	4811	8218	31	158.1	82	6	7.455		30.13	0.030	10.70	.	8.6
KEITH LAKE	4819	7946	36	68.0	82	7	7.496		30.32	0.110	10.60	.	64.1
KENETOGAMI LAKE	4747	8138	33	158.6	80	6	6.250		7.70	.	.	.	.
KENOGAMI LAKE	4806	8014	36	876.6	78	10	7.580		28.90	.	.	.	.
KETCHINI LAKE	4751	8155	33	186.5	84	2	7.758		31.20	0.008	10.60	6.0	30.9
KLUCK LAKE	4919	8211	35	6.0	84	1	8.405		139.79	0.011	40.50	5.6	11.5
KNIGHT LAKE	5010	8017	32	268.8	80	8	7.510		17.30	.	.	.	.
KUSHOG LAKE (LONG)	4755	8015	36	743.0	82	5	.		.	.	13.90	.	97.0
LAKE ABITIBI	4842	7945	32	79771.6	80	4	7.300		43.90	.	.	.	.
LAMOTTE LAKE	4745	8140	33	131.3	82	7	7.503		27.40	0.046	8.80	.	70.9
LAPWORTH LAKE	4933	8434	34	208.2	84	2	8.070		99.70	0.000	27.30	3.3	6.0
LARDER LAKE	4805	7938	36	3706.4	82	7	7.724		37.20	0.022	15.20	.	19.8
LARKIN LAKE	4908	8439	34	334.5	84	2	7.670		147.70	0.013	40.90	8.8	38.5
LASCELLES LAKE	4908	8432	34	447.5	84	2	7.500		69.20	0.002	21.50	9.7	35.5
LEAF LAKE	4930	8441	34	59.9	84	2	7.950		185.90	0.006	47.20	1.3	4.0
LEFT LAKE	4813	8147	38	56.9	84	2	7.700		22.95	0.085	9.30	14.8	173.5
LESSARD LAKE	4914	8504	34	161.9	84	2	7.730		82.10	0.009	24.10	7.3	19.5
LIPSETT LAKE	4820	8043	38	95.0	80	7	7.900		83.40	.	.	.	.
LISGAR LAKE	4848	8232	35	47.4	80	6	7.400		66.80	.	.	.	.
LITTLE CHELSEA LAKE	4908	8451	34	65.5	84	2	7.890		139.60	0.003	39.30	5.1	8.0
LITTLE ISLAND LAKE	4758	8338	31	122.0	85	2	7.165		34.30	0.016	12.50	7.4	.
LITTLE KESAGAMI LAKE	4945	8016	32	513.3	80	8	7.750		31.40	.	.	.	.
LITTLE RICE LAKE	4907	8310	35	60.6	84	1	7.725		58.29	0.024	18.30	18.0	104.5
LONE CABIN LAKE	4918	8459	34	45.5	84	2	7.640		89.40	0.017	25.20	11.5	30.0
LOST LAKE	4741	8040	36	76.1	78	10	7.530		40.50	.	.	.	.
LOWER AITKEN LAKE	4846	8155	35	46.2	84	2	7.781		37.16	0.057	13.70	14.9	101.2
LOWER CHESTERFIELD LAKE	4811	8128	38	28.4	84	1	7.406		22.00	0.120	9.30	18.2	160.0
LOWER MICHEGANA LAKE	4805	8128	38	246.2	84	1	7.289		16.76	.	7.10	10.2	65.9
LOWER OPIKINIMIKA LAKE	4731	8120	33	390.8	78	10	7.400		35.75	.	.	.	.
LOWER STETHAM LAKE	4746	8134	33	68.8	84	2	7.415		16.17	0.024	7.70	6.3	35.5
MAKAMI LAKE	4744	8150	33	169.6	84	2	7.422		17.03	0.042	7.20	7.6	53.4
MARCY LAKE	4835	8155	38	65.6	84	2	8.094		74.97	0.025	23.20	11.2	74.9
MASSEY LAKE	4831	8151	38	69.2	84	2	7.548		21.07	0.039	7.80	14.1	93.7
MATACHEWAN LAKE	4803	8043	36	140.6	80	9	7.700		64.70	.	.	.	.
MCARTHUR LAKE	4813	8113	38	262.1	84	1	7.645		28.47	0.010	9.20	7.1	32.6
MCEWING LAKE	4932	8435	34	150.9	84	2	7.480		133.50	0.002	37.00	6.0	16.0
MESOMIKENDA LAKE	4740	8153	33	1707.5	80	6	6.650		15.20	.	.	.	.
METIKEMEDO LAKE	4741	8057	36	123.8	80	6	7.000		24.20	.	.	.	.
MICHIWAKENDA LAKE	4738	8113	33	302.2	78	10	7.460		22.75	.	.	.	.
MINISINAKWA LAKE	4739	8144	33	1911.1	85	5	7.290		15.30	0.048	6.35	.	.
MISEMA LAKE	4813	7945	36	347.9	82	7	7.288		19.07	0.091	7.80	.	54.2
MOND LAKE	4749	8110	33	92.1	84	2	7.964		57.19	0.027	17.80	7.3	44.0
MONTROSE LAKE	4759	8104	36	249.9	84	2	7.595		32.02	0.018	11.90	10.6	62.5
MOORE LAKE	4734	8200	33	94.3	84	2	7.436		12.56	0.027	6.40	7.5	24.6
MOUNTAIN LAKE	4739	8014	36	416.3	81	6	7.100		18.20	.	.	.	.

REGION=NORTHERN

LAKE	LAT	LONG	DISTRICT	AREA	YEAR	MONTH	PH	RISK	ALK	AL	CA	DOC	COLOUR
BRACK LAKE	4919	8211	35	46.6	82	5	8.432		112.29	.	34.3	.	24.4
BROMLEY LAKE	4826	8159	38	775.0	80	7	7.350		46.00	.	.	.	.
BRUCE LAKE	4813	8124	38	87.5	84	2	7.842		40.20	0.014	12.9	6.4	27.4
BUFFALO ISLAND LAKE	4910	8500	34	273.8	84	2	7.570		90.50	0.004	26.7	6.3	10.5
BUN LAKE	4933	8436	34	147.8	84	2	8.000		141.50	0.000	37.7	2.7	5.0
BURT LAKE	4805	8022	36	103.5	80	6	6.750		17.30	.	.	.	.
CALCITE LAKE	4740	8040	36	36.6	80	6	6.600		32.90	.	.	.	.
CAMPBELL LAKE	4754	8105	33	95.2	84	2	7.783		31.43	0.020	11.0	8.8	37.7
CARMICHAEL LAKE	4910	8154	35	85.1	84	1	7.714		30.99	0.260	11.3	16.9	142.7
CHARTRAND LAKE	4752	8324	31	94.2	84	2	7.528		24.77	0.041	8.7	10.9	82.7
CLAIRE LAKE	4901	8227	35	36.0	84	1	7.869		54.15	0.039	18.3	23.5	130.5
CLAW LAKE	4741	8123	33	223.6	84	2	7.735		48.50	0.012	16.5	12.4	65.5
CLAY LAKE	4947	8155	35	23.9	84	1	7.614		31.90	0.100	11.9	19.1	165.8
CONSTANCE LAKE	4948	8409	34	477.5	84	2	8.440		135.00	0.006	38.5	6.2	11.0
COOPER LAKE	4903	8259	35	31.3	80	7	7.150		64.30	.	.	.	.
CREE LAKE	4914	8441	34	59.9	80	7	7.750		90.60	.	.	.	.
DAY LAKE	4856	8223	35	51.2	84	1	8.228		87.61	0.010	25.4	11.1	44.4
DEERFOOT LAKE	4811	8158	38	74.0	84	2	7.706		32.79	0.035	11.6	16.2	105.1
DEPARTURE LAKE	4915	8148	32	209.3	78	10	7.400		30.85	.	.	.	.
DUKE LAKE	4722	8151	33	193.3	80	6	6.500		11.60	.	.	.	.
DUMBELL LAKE	4753	8105	33	173.2	84	2	7.813		33.08	0.013	9.7	6.8	21.3
DUMBELL LAKE	4843	8305	35	92.1	84	1	8.287		125.80	0.024	35.4	13.3	72.0
DUNCAN LAKE	4746	8058	36	1132.0	78	10	7.400		29.90	.	.	.	.
DUNGAREE LAKE (INDIAN)	4802	8136	38	50.2	84	2	8.023		42.12	0.019	15.1	9.2	44.5
ELK LAKE	4744	8020	36	523.4	78	10	7.450		30.95	.	.	.	.
FANNING LAKE	4920	8212	35	70.5	82	5	8.091		56.82	.	17.9	.	68.3
FIRTH LAKE	4740	8052	36	433.8	78	10	7.270		13.55	.	.	.	.
FLORANNA LAKE	4807	8319	31	145.6	80	5	7.500		32.40	.	.	.	.
FOX LAKE	4953	8352	34	179.0	84	2	7.955		65.12	0.012	19.0	14.4	86.1
FOY LAKE	4758	8113	38	61.0	84	2	7.990		50.95	0.011	15.0	12.5	64.6
FRASER LAKE	4933	8455	34	144.5	84	2	7.540		102.30	0.012	33.6	10.9	49.5
FRITZ LAKE (NL)	4917	8437	34	44.3	84	2	7.730		83.90	0.007	25.5	12.0	6.0
FUSHINI LAKE	4950	8354	34	1231.1	82	5	8.001		48.36	.	14.8	.	95.9
GEORGE LAKE (NL)	4940	8016	32	153.1	80	7	7.050		7.00	.	.	.	.
GOUIN LAKE	4755	8131	33	104.4	84	2	7.766		8.00	0.055	12.1	12.7	85.0
GOVERNMENT LAKE	4912	8453	34	259.2	80	7	7.350		60.30	.	.	.	.
GRASSY LAKE	4748	8114	33	172.7	80	5	7.300		34.60	.	.	.	.
GRAVEL LAKE	4921	8222	35	36.5	82	5	8.364		91.35	.	30.6	.	11.8
GUILFOYLE LAKE	4945	8221	35	731.8	80	6	7.750		80.00	.	.	.	.
GURNEY LAKE	4935	8210	35	142.6	80	6	7.250		49.80	.	.	.	.
HAKEN LAKE	4906	8442	34	97.2	84	2	7.780		116.80	0.006	34.0	7.1	18.5
HASSARD LAKE	4802	8130	38	69.2	84	1	7.268		14.52	0.140	7.2	16.5	150.4
HAZEN LAKE	4753	8137	33	258.5	78	10	6.980		10.05	.	.	.	.
HIAWATHA LAKE	4931	8501	34	156.4	84	2	7.630		78.70	0.009	24.4	11.2	47.0
HORWOOD LAKE	4800	8220	31	5545.8	82	6	7.350		33.26	0.052	11.7	.	48.2
HOUSTON LAKE	4740	8107	33	103.7	78	10	7.720		38.00	.	.	.	.
HOWARD LAKE	4814	7949	36	126.5	82	5	.		.	.	7.2	.	64.3
HOWELLS LAKE	4957	8159	35	58.8	84	1	.		202.77	0.000	56.8	2.8	6.8
HUTT LAKE	4756	8105	38	92.7	84	2	7.767		30.65	0.010	10.5	6.8	16.9
IRISH LAKE	4942	8405	34	153.1	84	2	7.430		31.50	0.180	12.5	58.0	352.0
IVANHOE LAKE	4806	8235	31	1013.8	80	5	7.600		43.50	.	.	.	.
JOE LAKE (NL)	4952	8335	34	33.0	84	2	7.136		90.53	0.024	25.8	22.0	177.0
JOWSEY LAKE	4822	8144	38	187.9	80	7	7.300		31.90	.	.	.	.

REGION=NORTHERN

LAKE	LAT	LONG	DISTRICT	AREA	YEAR	MONTH	PH	RISK	ALK	AL	CA	DOC	COLOUR
MOUNTAIN LAKE	4911	8426	34	201.5	84	2	7.170		56.90	0.015	18.4	14.1	71.0
MURR LAKE	4809	8148	38	81.6	84	2	8.012		41.58	0.041	15.3	13.1	129.6
MUSKRAT LAKE (NL)	4923	8206	35	51.8	84	1	8.135		78.17	0.032	23.2	14.3	82.6
NABAKWASI LAKE	4733	8127	33	884.0	80	5	7.650		65.70	.	.	.	.
NAGAGAMI LAKE	4925	8501	34	5366.7	80	7	7.800		63.00	.	.	.	.
NAGAGAMISIS LAKE	4928	8440	34	2332.8	82	5	8.445		115.39	.	32.4	.	18.5
NEMEGOSENDA LAKE	4800	8307	31	1803.2	80	8	7.600		56.00	.	.	.	.
NEVILLE LAKE	4740	8155	33	119.0	84	2	7.273		13.87	0.068	6.0	10.7	36.9
NIGHTHAWK LAKE	4828	8058	38	9832.2	85	5	7.870		33.73	0.415	16.8	.	.
NUGENT LAKE (CROFT)	4752	8114	33	110.6	84	2	8.253		92.25	0.006	30.1	5.0	20.6
OBUSHKONG LAKE	4742	8048	36	437.4	81	8	7.150		10.40	.	.	.	.
PAPAKOMEKA LAKE	4816	8118	38	202.4	80	7	7.200		47.10	.	.	.	.
PARK LAKE	4927	8441	34	71.3	84	2	7.960		180.30	0.005	51.4	3.1	13.5
PENASSI LAKE	4745	8054	36	232.5	81	7	7.350		28.40	.	.	.	.
PENELTON LAKE	4906	8305	35	441.5	85	5	8.020		69.86	0.056	21.8	.	.
PENHALL LAKE	4945	8357	34	49.2	84	2	8.183		109.74	0.007	31.3	10.9	40.7
PHARAND LAKE	4807	8148	38	392.9	80	7	6.900		27.90	.	.	.	.
PIERRE LAKE	4930	8045	32	2354.0	80	4	7.200		40.60	.	.	.	.
PIKE LAKE	4947	8408	34	48.9	84	2	8.290		100.30	0.015	28.3	12.7	50.0
PIVABISKA LAKE	4949	8343	34	799.5	82	5	.		.	.	16.3	.	12.4
POWELL LAKE	4801	8050	36	26.7	81	8	7.650		35.70	.	.	.	.
POWELL LAKE	4902	8259	35	49.7	84	1	7.740		47.68	0.024	16.3	17.4	112.8
PRAIRIE BEE LAKE	4755	8351	31	1150.8	80	5	6.800		14.60	.	.	.	.
PRATT LAKE	4857	8230	35	93.2	84	1	8.231		98.64	0.014	29.4	12.0	51.1
PUSHAWA LAKE	4731	8343	31	233.7	80	8	7.050		26.70	.	.	.	.
PUZZLE LAKE	4927	8435	34	36.6	84	2	7.160		60.20	0.018	19.4	12.0	56.5
RACINE LAKE	4802	8320	31	1268.0	80	5	7.400		24.90	.	.	.	.
RADISSON LAKE	4813	8045	36	543.9	82	7	7.606		24.73	0.021	8.7	.	18.5
RADISSON LAKE	4857	8311	35	75.1	84	1	7.796		62.20	0.025	19.5	18.1	123.7
RAFT LAKE (NL)	4929	8433	34	56.5	84	2	7.850		100.00	0.004	30.9	6.5	16.5
RAVEN LAKE	4803	7933	36	616.7	85	6	7.420		.	0.150	6.2	.	.
READING LAKE	4754	8118	33	113.3	84	2	8.317		107.80	0.005	32.2	3.0	3.0
REAUME LAKE	4854	8108	32	27.1	80	7	7.800		154.80	.	.	.	.
REDWING LAKE	4800	8106	38	56.4	84	2	7.838		45.32	0.012	13.6	8.3	51.8
RHYOLITE LAKE	4753	8103	36	171.8	84	2	7.722		27.84	0.051	8.1	5.9	11.0
RITCHIE LAKE	4953	8331	34	96.9	84	2	7.788		45.31	0.037	13.8	15.1	99.8
ROBINSON LAKE	4759	8317	31	75.5	84	2	7.674		41.64	0.030	14.0	8.0	49.6
ROUND LAKE	4801	8002	36	1212.1	82	5	7.950		37.75	.	15.3	.	45.6
RUFUS LAKE	4909	8305	35	528.8	80	7	7.300		65.90	.	.	.	.
SCHOU LAKE	4736	8159	33	215.7	84	2	7.195		9.48	0.040	5.0	9.4	49.4
SCUCKASU LAKE	4937	8456	34	131.2	84	2	7.380		63.60	0.013	20.6	13.6	43.5
SESEKINIKA LAKE	4811	8014	36	589.7	78	10	7.330		21.45	.	.	.	.
SHACKLETON LAKE	4918	8156	35	82.6	84	1	8.144		86.26	0.034	25.6	14.6	75.4
SHANNON LAKE	4948	8324	34	1141.3	80	7	7.850		83.50	.	.	.	.
SHEKAK LAKE	4905	8505	34	769.9	80	7	7.750		72.50	.	.	.	.
SILVER QUEEN LAKE	4914	8108	32	132.8	80	7	7.720		62.80	.	.	.	.
SINGED TREE LAKE	4812	8219	31	90.6	82	7	6.994		43.35	0.024	14.5	.	69.0
SISSENEY LAKE	4752	8040	36	366.1	81	8	7.000		9.80	.	.	.	.
SKELETONPUP LAKE	4752	7941	36	11.3	81	7	7.220		19.30	.	.	.	.
SLATE ROCK LAKE	4811	8221	31	163.4	82	7	7.417		44.89	0.033	14.8	.	64.1
SOTHMAN LAKE	4754	8116	33	117.8	84	2	8.278		92.25	0.003	30.3	3.6	7.0
SOUTH FLOODWOOD LAKE	4922	8019	32	228.6	80	8	7.800		35.80	.	.	.	.
SOUTH LAKE	4927	8436	34	84.2	84	2	7.950		148.40	0.010	43.5	7.7	35.5

REGION=NORTHERN

LAKE	LAT	LONG	DISTRICT	AREA	YEAR	MONTH	PH	RISK	ALK	AL	CA	DOC	COLOUR
SOUTH TOWER LAKE	4921	8210	35	14.4	84	1	.		.	0.006	49.70	7.9	37.3
ST. AMAND LAKE	4942	8246	35	86.8	84	1	7.917		38.68	0.009	11.50	8.1	7.1
STE. THERESE LAKE	4948	8339	34	77.0	84	2	.		109.86	0.062	32.10	19.5	147.1
STETHAM LAKE (UPPER)	4750	8136	33	135.9	84	2	7.644		24.70	0.011	10.50	7.5	33.4
STODDART LAKE	4948	8358	34	148.6	82	5	8.178		74.98	.	22.10	.	40.9
STRAY LAKE	4922	8331	34	55.2	84	2	8.070		92.10	0.023	26.80	12.1	49.0
STRINGER LAKE	5011	8053	32	584.7	80	8	7.980		45.40	.	.	.	.
STUMPY LAKE	4735	8045	36	396.3	80	6	6.400		5.00	.	.	.	.
SWAN LAKE	4814	8016	36	136.1	78	10	7.350		30.95	.	.	.	.
SWANSON LAKE	4919	8221	35	40.1	80	7	6.700		23.80	.	.	.	.
TATACHIKAPIKA LAKE	4752	8142	33	781.1	78	10	6.800		13.20	.	.	.	.
THOM LAKE	4902	8255	35	77.4	84	1	7.796		56.61	0.019	17.90	16.2	91.8
THORNING LAKE	4926	8055	32	205.0	80	8	7.660		30.90	.	.	.	.
TORRANCE LAKE	4943	8205	35	366.2	80	6	6.750		18.80	.	.	.	.
UPPER CHESTERFIELD LAKE	4810	8128	38	41.7	84	1	8.180		86.98	0.024	27.60	9.1	52.8
UPPER GRASSY LAKE	4746	8113	33	130.3	84	2	7.875		47.12	0.022	15.20	9.7	55.5
UPPER KENETOGAMI LAKE	4749	8139	33	88.1	84	2	6.950		5.14	0.024	3.00	5.2	17.0
UPPER MICHEGAMA LAKE	4807	8130	38	80.6	84	1	7.431		22.76	0.037	8.80	10.5	78.6
UPPER PICHOGEN LAKE	4852	8404	34	99.4	84	2	7.810		90.60	0.008	26.50	10.9	52.5
VALENTINE LAKE	4943	8403	34	63.8	84	2	8.020		68.10	0.071	18.50	15.0	63.0
VERNA LAKE	4817	7945	36	87.5	82	7	7.430		21.08	0.094	8.50	.	51.5
VICE LAKE	4748	8252	31	70.3	84	2	7.862		58.49	0.006	17.70	10.8	59.1
VISON LAKE	4914	8501	34	79.2	84	2	7.550		82.00	0.020	25.10	12.7	62.5
WAKAMI LAKE	4729	8251	31	1713.0	80	5	7.300		23.80	.	.	.	.
WAKWAYOWKASTIC LAKE	4936	8019	32	221.3	85	5	7.650		24.95	0.147	8.05	.	.
WATERSNAKE LAKE	4916	8201	35	98.0	84	1	9.918		66.25	0.035	19.80	15.2	82.3
WEARY LAKE	4754	8102	36	30.8	84	2	7.736		28.56	0.016	12.30	8.0	34.0
WENDIGO LAKE	4752	7943	36	419.6	80	6	6.750		18.40	.	.	.	.
WEST LARKIN LAKE	4905	8446	34	140.1	84	2	7.760		97.60	0.004	28.80	7.4	14.5
WHITE OWL LAKE	4902	8501	34	339.0	84	2	7.700		84.90	0.004	24.70	9.4	34.5
WICKSTEED LAKE	4919	8447	34	215.5	84	2	7.570		94.10	0.004	27.80	8.6	23.5
WILMOT LAKE	4948	8407	34	35.8	84	2	8.190		81.20	0.025	23.00	36.0	116.0
WIZARD LAKE (DEVIL)	4744	8146	33	131.5	84	2	7.121		10.50	0.120	5.70	12.8	163.0
WOLF LAKE	4738	8159	33	104.7	84	2	7.383		15.16	0.062	6.10	9.5	58.8
WYE LAKE (NL)	4812	8325	31	32.4	84	2	7.938		77.53	0.027	24.00	11.6	66.7
ZADI LAKE	4942	8241	35	663.6	85	5	7.720		45.00	0.140	14.55	.	.

SAMPLED WALLEYE LAKES
PRINTED BY MNR REGION

REGION=NORTHEASTERN

LAKE	LAT	LONG	DISTRICT	AREA	YEAR	MONTH	PH	RISK	ALK	AL	CA	DOC	COLOUR
LITTLE TOMIKO LAKE	4633	7927	43	310.9	82	5	5.720	*	.	.	2.1	.	23.7
LOLA LAKE	4822	8439	47	288.4	85	2	7.436		39.97	0.000	14.3	4.7	.
LOWER STURGEON LAKE	4607	8036	45	73.7	79	9	6.800		5.40	.	.	.	.
MAGOG LAKE	4617	8250	41	309.0	81	6	6.680		3.50	0.049	2.8	4.2	16.2
MAHZENAZING LAKE	4604	8110	45	164.0	82	10	5.892	*	0.50	0.057	2.4	.	7.7
MANITOWIK LAKE	4810	8424	47	3130.3	85	2	7.527		31.44	0.009	12.8	5.9	.
MARIAN LAKE	4646	7947	43	274.2	85	2	7.221		24.90	0.038	11.3	9.8	.
MASKINONGE LAKE	4647	8027	45	1427.7	81	6	6.140		0.66	0.060	4.0	1.8	-0.5
MATTHEWS LAKE	4856	8506	47	570.4	80	8	8.080		66.90	.	.	.	.
MCCARTHY LAKE	4619	8228	41	657.9	79	9	6.750		5.50	.	.	.	.
MCGILL LAKE	4855	8530	47	138.0	85	2	7.572		83.24	0.002	27.1	11.2	.
MCMASTER LAKE	4823	8513	47	72.3	85	2	7.825		75.51	0.010	24.5	3.6	.
MCMURTY LAKE	4814	8413	47	156.3	85	2	7.045		14.10	0.029	7.2	7.0	.
MCQUABY LAKE	4602	7934	43	226.8	82	5	6.323		1.20	.	2.2	.	15.1
MCQUOWN LAKE	4826	8503	47	115.9	85	2	7.223		27.98	0.016	9.7	6.0	.
MEDHURST LAKE (ORANGE)	4826	8441	47	317.1	85	2	6.815		15.04	0.060	6.6	6.5	.
MEGIT LAKE	4759	8440	47	10.4	85	2	7.981		54.94	0.015	21.4	3.4	.
MEMESAGAMESING LAKE	4600	8000	43	1099.6	82	5	6.068		2.18	.	2.8	.	31.3
MENDELSSOHN LAKE	4732	8012	46	438.6	81	7	6.430		2.18	0.036	3.4	3.2	10.3
MIKANO LAKE	4851	8520	47	129.0	78	8	8.190		61.00	.	.	.	.
MILTON LAKE	4555	7952	43	28.3	78	7	6.260		2.75	.	.	.	.
MINISTIC LAKE	4634	8134	45	567.6	82	5	6.674		2.12	.	2.8	.	14.4
MOSAMBIK LAKE	4842	8432	47	1006.4	80	7	7.710		40.60	.	.	.	.
MOSQUITO LAKE	4633	8131	45	97.2	80	1	5.970	*	2.12	.	.	.	.
MURRAY LAKE	4640	8026	45	412.9	80	3	5.730	*	0.70	.	.	.	.
MURRAY LAKE	4814	8409	47	970.6	80	8	7.050		10.50	.	.	.	.
NAMEIGOS LAKE	4847	8443	47	1322.1	80	7	8.060		66.40	.	.	.	.
NET LAKE	4706	7946	46	711.1	78	10	6.810		15.55	.	.	.	.
OBA LAKE	4840	8416	47	2457.1	80	7	7.490		33.60	.	.	.	.
OBATANGA LAKE	4821	8507	47	313.1	85	2	7.001		23.00	0.055	9.1	10.7	.
ODAMBI LAKE	4754	8433	47	20.7	85	2	7.708		26.72	0.039	10.4	3.5	.
OGANEK LAKE	4833	8508	47	54.9	85	2	8.060		71.18	0.006	24.0	4.7	.
OGAS LAKE	4747	8441	47	197.8	81	8	6.230		6.70	.	.	.	.
OGASIMI LAKE (DALTON)	4812	8400	47	413.6	85	2	7.379		23.13	0.058	9.2	7.6	.
OLGA LAKE	4853	8539	47	299.4	85	2	7.499		85.61	0.009	28.0	8.3	.
OPECHEE LAKE	4647	7950	43	181.0	85	2	7.489		24.22	0.019	10.6	7.0	.
OSKABUKUTA LAKE	4834	8539	47	118.3	85	2	7.361		45.16	0.007	16.4	5.0	.
PAINT LAKE	4814	8505	47	61.2	85	2	7.040		16.59	0.061	8.7	7.7	.
PICNIC LAKE	4836	8516	47	150.8	78	8	5.840	*	0.87	.	.	.	.
POKEI LAKE	4825	8514	47	793.0	80	7	7.520		33.50	.	.	.	.
RABBIT LAKE	4700	7938	46	2107.4	81	7	7.270		16.49	0.016	8.2	4.4	22.5
RAVEN LAKE (NL)	4853	8517	47	34.3	78	8	8.000		74.00	.	.	.	.
RAVINE LAKE	4851	8540	47	125.4	85	2	7.498		44.04	0.064	15.9	10.4	.
RED CEDAR LAKE	4645	7954	43	2423.5	81	7	6.980		15.32	0.038	6.8	5.3	32.8
RENNIE LAKE	4823	8358	47	579.7	85	2	7.401		28.12	0.000	11.7	5.5	.
RESTOULE LAKE	4603	7946	43	1238.2	81	6	6.460		3.80	0.038	3.2	5.9	31.5
RIB LAKE	4713	7943	46	685.2	81	7	7.330		13.28	0.020	6.2	4.3	8.5
ROBICHAUD LAKE (PINE)	4618	7908	43	126.8	85	2	7.245		12.71	0.003	4.7	3.8	.
ROCK LAKE	4626	8346	44	1029.5	78	8	7.320		12.70	.	.	.	.
RUTH LAKE	4601	7931	43	197.4	85	5	6.720		4.17	0.057	3.1	.	.
SANIGA LAKE (SENECA)	4828	8508	47	33.0	85	2	7.519		40.71	0.008	14.1	5.4	.
SHEEDY LAKE	4617	7906	43	39.4	82	5	.		.	.	5.5	.	22.1
SMITH LAKE	4616	7856	43	188.8	82	5	.		.	.	3.2	.	30.4

REGION=NORTHEASTERN

LAKE	LAT	LONG	DISTRICT	AREA	YEAR	MONTH	PH	RISK	ALK	AL	CA	DOC	COLOUR
DAVIS LAKE	4853	8511	47	53.3	78	8	8.210		43.55	.	.	.	.
DESBARATS LAKE	4623	8356	44	357.2	81	6	6.770		2.50	.	.	.	.
DIAMOND LAKE	4712	8015	46	926.0	81	7	6.260		1.28	0.035	2.8	4.4	7.6
DOG LAKE	4817	8408	47	5184.0	85	2	7.452		32.50	0.009	12.8	6.0	.
DORE LAKE	4800	8456	47	145.8	80	8	6.780		12.30	.	.	.	.
DOWNES LAKE	4645	8135	45	45.9	80	7	6.640		6.70	.	.	.	.
DUNLOP LAKE	4629	8242	41	1099.0	79	9	6.880		4.43	.	.	.	.
EASEY LAKE	4824	8403	47	682.1	85	2	7.250		26.36	0.036	10.8	8.6	.
ECHO LAKE	4634	8359	44	1150.2	81	6	6.920		3.70	.	.	.	.
EMERALD LAKE	4811	8442	47	14.9	85	2	7.317		65.26	0.087	28.8	2.5	.
ESNAGI LAKE	4836	8433	47	4362.3	80	7	7.680		40.60	.	.	.	.
EVANS LAKE	4649	8420	44	29.3	85	2	6.879		7.82	0.035	4.2	4.3	.
FIDO LAKE	4847	8518	47	76.0	85	2	7.542		82.44	0.007	26.4	8.5	.
FORLISE LAKE	4652	7935	46	56.9	79	7	6.900		8.10	.	.	.	.
FRANLEY LAKE	4645	7949	43	24.7	80	7	7.550		42.40	.	.	.	.
FUNGUS LAKE	4819	8458	47	308.4	81	6	6.940		18.30	.	.	.	.
GENEVA LAKE	4646	8133	45	356.4	81	6	6.620		2.66	0.023	3.4	3.4	-1.5
GORDON LAKE (NL)	4625	8350	44	560.1	78	8	6.920		18.00	.	.	.	.
GOUGH LAKE (BIRCH)	4618	8158	42	1080.5	82	5	6.650		4.72	.	3.0	.	27.7
GROUSE LAKE	4848	8516	47	66.3	85	2	7.617		87.52	0.003	28.5	9.0	.
GULL LAKE	4654	8012	46	1313.8	81	7	6.990		4.76	0.008	4.8	3.1	6.3
HALF-MILE LAKE	4749	8438	47	23.1	85	2	6.189		5.04	0.120	4.4	5.5	.
HAMBLETON LAKE (BOOT)	4851	8502	47	354.8	85	2	7.691		58.29	0.000	18.8	4.7	.
HAMMER LAKE	4824	8506	47	458.6	80	8	6.870		20.30	.	.	.	.
HAMMOND LAKE	4731	7952	46	128.7	81	7	7.450		27.39	0.003	10.2	3.0	11.2
HAWK LAKE	4804	8434	47	322.4	79	9	7.680		33.40	.	.	.	.
HAYWARD LAKE (NL)	4834	8558	47	553.0	80	8	7.500		40.20	.	.	.	.
HELEN LAKE	4700	8107	45	342.0	81	7	5.880	M	1.04	0.036	2.8	3.3	11.7
HERRICK LAKE (NL)	4836	8557	47	501.3	80	8	7.330		27.50	.	.	.	.
HOBON LAKE	4826	8425	47	227.3	78	7	7.400		17.35	.	.	.	.
HORSEHEAD LAKE	4849	8523	47	65.0	85	2	7.317		60.81	0.000	19.4	11.3	.
ICELAND LAKE	4700	7952	46	82.7	79	6	6.800		10.40	.	.	.	.
JEMBI LAKE	4901	8526	47	343.5	85	2	7.423		77.68	0.007	24.4	9.6	.
JOBAMMAGEESHIG LAKE	4631	8324	41	546.1	80	8	6.800		5.00	.	.	.	.
JOSEPH LAKE	4852	8520	47	78.9	85	2	7.627		77.02	0.008	24.2	7.2	.
JUMPING CARIBOO LAKE	4653	7947	46	409.1	81	7	6.970		8.76	0.019	5.4	4.4	19.3
KABOSSAKWA LAKE	4851	8525	47	159.9	80	8	8.010		67.10	.	.	.	.
KAGINAGAKOG LAKE	4842	8502	47	279.4	85	2	7.301		58.65	0.005	19.2	6.0	.
KAKAKIMAGANDA LAKE	4611	8047	45	187.9	81	7	6.630		9.93	0.062	5.2	6.0	40.5
KAKAKIWIBIK LAKE	4836	8505	47	424.0	80	7	7.590		47.90	.	.	.	.
KAMAPITAPIKA LAKE	4837	8521	47	144.5	78	8	8.510		95.50	.	.	.	.
KAMAMEAGAMA LAKE	4831	8501	47	481.2	80	7	7.260		25.20	.	.	.	.
KENSHOE LAKE	4852	8517	47	64.2	78	8	8.390		75.50	.	.	.	.
KETTLE LAKE	4652	7945	46	16.4	79	7	6.950		7.00	.	.	.	.
KNIFE LAKE	4818	8506	47	561.6	81	6	7.200		22.40	.	.	.	.
KOKOKO LAKE	4705	8002	46	494.1	81	7	7.290		14.92	0.010	7.0	6.5	11.2
KWINKWAGA LAKE	4848	8520	47	811.9	80	8	7.660		63.00	.	.	.	.
LA CHAPELLE LAKE	4617	7907	43	22.3	80	7	6.550		13.50	.	.	.	.
LAKE NOSBONSING	4612	7913	43	1705.9	80	7	7.000		13.60	.	.	.	.
LAKE TEMAGAMI	4700	8005	46	20979.0	81	7	7.200		9.40	0.016	6.4	2.7	8.5
LANG LAKE	4610	8140	42	596.4	82	5	7.234		7.62	.	6.5	.	9.6
LESLIE LAKES	4841	8522	47	31.7	85	2	7.504		91.15	0.018	31.7	5.8	.
LITTLE PANACHE LAKE	4617	8122	45	130.7	81	6	7.620		26.13	0.012	10.6	4.7	6.3

REGION=NORTHEASTERN

LAKE	LAT	LONG	DISTRICT	AREA	YEAR	MONTH	PH	RISK	ALK	AL	CA	DOC	COLOUR
ANIMA NIPISSING LAKE	4714	7957	46	2051.2	81	7	6.910		3.62	0.007	3.6	2.5	2.2
ANVIL LAKE	4725	8016	46	226.4	81	7	6.160		1.29	0.061	2.8	4.9	18.8
APISABICO LAKE	4828	8344	47	429.2	80	7	6.920		16.80	.	.	.	.
ARTHURS LAKE (JACK'S)	4556	7950	43	215.4	82	5	6.394		5.40	.	4.0	.	54.4
ASHIGAMI LAKE	4639	8034	45	482.1	80	3	5.970	*	1.97	.	.	.	.
ATIKAMEG LAKE	4851	8530	47	19.8	85	2	7.700		87.24	0.027	28.2	8.0	.
BANANISH LAKE	4837	8539	47	106.7	81	6	7.020		25.70	.	.	.	.
BARE TENT LAKE	4826	8433	47	45.5	85	2	6.770		13.19	0.075	6.2	9.5	.
BAY LAKE	4721	7951	46	1456.4	79	5	7.030		13.45	.	.	.	.
BEAR LAKE	4612	8127	42	683.1	81	7	6.980		6.69	0.010	6.0	4.1	13.0
BEARHEAD LAKE	4618	8258	41	267.0	78	7	6.920		3.82	.	.	.	.
BEATTY LAKE (WOLFE)	4602	7932	43	121.3	79	5	6.530		4.67	.	.	.	.
BELANGER LAKE	4650	7950	46	81.6	79	6	6.600		6.20	.	.	.	.
BOUCHARD LAKE (NL)	4848	8528	47	242.2	78	8	8.360		74.00	.	.	.	.
BOYCE LAKE	4650	7938	46	270.5	79	7	7.000		10.60	.	.	.	.
BULLDOZER LAKE	4857	8527	47	116.4	85	2	7.506		79.84	0.000	25.1	7.8	.
BURNFIELD LAKE	4821	8502	47	113.6	78	8	8.010		56.50	.	.	.	.
CARIBOU LAKE	4622	8350	44	213.8	78	8	6.980		7.95	.	.	.	.
CATFISH LAKE	4806	8448	47	156.7	78	5	6.920		15.90	.	.	.	.
CHANT PLAIN LAKE	4619	7846	43	256.0	82	5	6.920		6.76	.	3.9	.	31.4
CHIBLOW LAKE	4621	8303	41	2089.4	81	6	6.890		3.72	0.010	2.6	3.4	0.0
COMMANDA LAKE	4601	7943	43	549.3	78	7	6.630		4.41	.	.	.	.
COTTON LAKE	4821	8503	47	35.0	78	8	7.600		89.00	.	.	.	.
CRAIG LAKE	4838	8414	47	234.7	80	7	7.540		40.30	.	.	.	.
CRAYFISH LAKE	4816	8505	47	184.5	85	2	7.172		14.20	0.029	7.2	7.8	.
CROUCH LAKE	4828	8421	47	198.0	78	7	7.450		14.90	.	.	.	.
CUPA LAKE	4856	8514	47	102.0	78	8	8.190		62.00	.	.	.	.
DAVIES LAKE	4819	8442	47	125.6	85	2	7.037		27.57	0.059	12.0	10.7	.

SAMPLED WALLEYE LAKES
PRINTED BY MNR REGION

REGION=ALGONQUIN

LAKE	LAT	LONG	DISTRICT	AREA	YEAR	MONTH	PH	RISK	ALK	AL	CA	DOC	COLOUR
AHMIC LAKE	4537	7942	55	1567.0	78	7	6.710		3.99	.	.	.	.
AIRD LAKE	4508	7705	56	38.9	80	7	7.980		92.00	.	.	.	.
ARMSTRONG LAKE	4531	7955	55	22.0	83	2	6.580		9.51	0.071	4.6	6.7	52.0
ARNOLD'S BAY	4506	7957	55	109.2	83	2	6.560		3.61	0.039	3.3	3.3	24.0
BAPTISTE LAKE	4507	7803	52	2226.3	78	7	9.600		21.65	.	.	.	.
BAY LAKE	4530	7912	53	132.8	80	10	6.480		2.79	.	.	.	.
BENOIR LAKE	4511	7809	52	95.6	79	7	6.300		6.30	.	.	.	.
BIG DEEP BAY	4543	8016	55	120.5	83	2	6.370		3.98	0.083	3.4	5.8	45.0
BILLINGS LAKE	4456	7822	54	101.9	83	2	7.340		59.70	0.012	24.7	4.2	9.0
BLACK OAK LAKE	4533	8013	55	87.6	83	2	6.050		2.28	0.098	2.7	6.5	56.0
BLACKSTONE HARBOUR	4509	7959	55	271.0	80	8	6.300		3.18	.	3.4	.	.
BLUE HAWK LAKE	4500	7827	54	73.8	79	7	7.550		32.10	.	.	.	.
BONNIE LAKE	4508	7916	53	41.9	82	3	6.510		1.54	0.009	2.4	.	.
BRANDY LAKE	4506	7931	53	104.9	79	9	.		8.65	.	4.5	.	.
BRITCHLESS LAKE	4523	7718	56	114.2	80	6	7.590		18.70	.	.	.	.
CALABOGIE LAKE	4516	7645	56	1316.3	78	6	7.710		29.25	.	.	.	.
CAMEL LAKE	4510	7925	53	38.6	78	2	5.490	*	1.16	.	.	.	.
CAMERON LAKE (ENEAS)	4518	7724	56	42.1	78	6	8.220		62.00	.	.	.	.
CANNING LAKE	4456	7838	54	244.1	83	2	7.140		21.00	0.016	8.6	4.4	22.0
CARIBOU LAKE	4556	8004	55	529.3	79	7	6.150		3.80	.	.	.	.
CECEBE LAKE	4538	7933	55	770.3	82	5	6.800		.	.	3.4	.	34.9
CEDAR LAKE	4601	7828	51	2047.5	82	10	6.730		6.20	0.014	3.5	4.3	15.0
CHANDOS LAKE	4449	7800	52	1388.5	78	7	8.250		47.00	.	.	.	.
COLDINGHAM LAKE	4533	7642	56	28.4	80	6	8.330		89.50	.	.	.	.
CONTAU LAKE	4453	7826	54	129.8	79	7	7.700		39.70	.	.	.	.
CRANE LAKE	4513	7957	55	513.3	80	8	6.630		3.78	.	3.0	.	.
CRAWFORD LAKE (OTTER)	4536	7945	55	93.2	83	2	5.920	*	5.15	0.069	4.5	6.3	51.0
CRYSTAL LAKE	4445	7829	54	483.2	83	2	7.400		76.40	0.002	31.6	6.4	43.0
DEER LAKE (NULTY)	4535	7917	53	119.0	83	1	5.920	*	1.88	0.120	3.0	5.0	47.0
DOE LAKE	4532	7924	55	924.3	80	8	6.840		5.46	.	3.6	.	.
DOLLARS LAKE	4556	8013	55	970.5	82	5	6.441		5.48	.	3.8	.	41.3
DUCK LAKE	4546	8008	55	68.2	83	2	5.890	*	1.69	0.069	2.3	4.5	44.0
DUCK LAKE	4553	8000	55	185.4	83	2	6.540		5.14	0.094	4.1	6.7	62.0
EAGLE LAKE	4550	7930	53	991.3	81	7	6.370		4.21	0.020	2.8	3.3	29.6
ELEPHANT LAKE	4508	7808	52	1095.8	79	8	7.550		18.60	.	.	.	.
FOUR MILE LAKE	4441	7845	54	786.8	80	10	7.840		89.40	.	.	.	.
FRENCH LAKE (COLTON)	4526	7651	56	62.4	80	6	8.500		145.60	.	.	.	.
GIBSON LAKE	4458	7945	55	263.7	83	2	6.040		3.52	0.110	2.5	7.4	81.0
GIROUX LAKE (BIG)	4543	8030	55	115.6	83	2	5.830	*	3.54	0.130	2.7	9.3	107.0
GO HOME LAKE	4501	7953	55	666.5	83	2	6.590		3.89	0.039	3.5	3.8	24.0
GRASS LAKE	4502	7833	54	63.7	83	2	7.030		18.70	0.033	7.5	3.5	24.0
GREENS LAKE (GRASSY)	4447	7823	54	54.5	83	2	7.310		62.50	0.014	20.4	5.2	19.0
GROOM LAKE	4532	7911	53	64.7	83	1	6.210		3.36	0.066	3.0	4.1	34.0
GRUNDY LAKE	4556	8034	55	62.2	78	7	7.900		18.85	.	.	.	.
GURD LAKE	4556	8033	55	75.0	78	7	7.580		14.65	.	.	.	.
HAAS LAKE (PARADISE)	4502	7827	54	53.4	83	2	7.020		47.30	0.029	20.8	4.2	22.0
HAINES LAKE	4521	7956	55	112.4	83	2	6.100		3.60	0.063	3.3	5.0	41.0
HARRIS LAKE	4542	8022	55	363.4	80	10	6.180		3.60	.	.	.	.
HEAD LAKE	4503	7831	54	62.2	83	2	6.910		16.10	0.053	6.7	3.5	23.0
HIGH LAKE	4514	7930	53	64.8	83	2	6.450		4.15	0.019	3.3	2.5	13.0
HODSON LAKE (THREE MILE)	4535	7919	53	345.8	83	1	6.650		4.66	0.007	3.6	1.7	7.0
HOME LAKE (NL)	4538	8026	55	27.5	83	2	5.870	*	12.50	0.240	5.4	13.3	197.0
HORSESHOE LAKE	4539	8018	55	33.5	83	2	5.990	*	1.96	0.075	2.3	4.9	34.0

REGION=ALGONQUIN

LAKE	LAT	LONG	DISTRICT	AREA	YEAR	MONTH	PH	RISK	ALK	AL	CA	DOC	COLOUR
ISABELLA LAKE	4524	7949	55	178.9	80	8	6.72		3.80	.	.	.	.
JACK'S LAKE (BURDEN)	4540	7920	53	88.4	83	1	5.69	*	2.90	0.085	3.4	7.7	85
JEFFREYS LAKE (OLMSTED)	4535	7648	56	118.1	78	10	7.97		.	.	41.0	.	.
KAHSHE LAKE	4450	7918	53	751.2	81	2	6.21		5.07	.	.	.	.
KAMANISKEG LAKE	4525	7741	56	2908.8	80	1	6.69		5.59	.	.	.	.
KASHAGAWIGAMOG LAKE	4459	7836	54	817.9	80	1	7.07		20.53	.	10.4	.	.
KASSHABOG LAKE	4438	7758	52	890.7	79	8	7.20		15.90	.	.	.	.
KAWIGAMOG LAKE	4553	8016	55	551.0	79	8	6.30		6.10	.	.	.	.
LAC DU BOIS DUR	4553	7723	56	242.3	80	7	6.40		9.90	.	.	.	.
LAKE JOSEPH	4511	7947	53	5155.6	78	7	6.68		1.92	.	.	.	.
LAKE OF MANY ISLANDS	4546	7941	55	219.9	78	7	7.22		15.10	.	.	.	.
LAKE ROSSEAU	4510	7935	53	6374.4	80	2	6.44		3.44	.	4.0	.	.
LAUREL LAKE	4604	7837	51	65.3	82	10	6.70		8.37	0.013	4.4	3.3	16
LEONARD LAKE	4504	7927	53	189.1	79	9	5.46	*	0.31	.	.	.	.
LITTLE LAKE JOSEPH	4513	7941	55	288.3	80	8	6.97		3.10	.	.	.	.
LITTLE WILSON LAKE	4538	8017	55	42.0	83	2	5.76	*	0.90	0.120	2.3	5.8	48
LONG BAY (LITTLE LONG)	4554	8003	55	166.5	83	2	6.62		5.88	0.039	3.7	4.8	22
LOON LAKE	4501	7823	54	224.7	79	7	7.30		38.90	.	.	.	.
LORWALL LAKE	4525	7722	56	81.7	80	7	8.34		106.20	.	.	.	.
LOWER PAUDASH LAKE	4458	7801	52	449.4	79	8	7.45		25.60	.	.	.	.
MANITOUMABING LAKE	4529	7954	55	1250.6	79	7	6.45		7.70	.	.	.	.
MANSON LAKE (MOFFAT)	4533	7952	55	81.3	83	2	6.59		7.84	0.055	4.8	6.6	53
MCDOUGALL LAKE (PORTAGE)	4524	8003	55	69.3	83	2	6.05		2.59	0.099	2.2	6.2	63
MCEWEN LAKE	4531	7955	55	19.5	83	2	6.29		5.71	0.075	4.0	5.9	41
MCKELLAR LAKE	4531	7956	55	85.6	83	2	6.52		8.42	0.058	4.4	5.1	28
MCNUTT LAKE	4519	7956	55	39.7	83	2	6.23		4.26	0.062	3.6	5.0	33
MILL LAKE	4522	8000	55	619.2	78	7	7.03		4.18	.	.	.	.
MINK LAKE	4533	7703	56	542.0	78	10	8.37		.	.	37.6	.	.
MOFFAT LAKE (SQUAW)	4532	7953	55	52.4	83	2	6.36		9.62	0.089	5.6	6.7	62
MOON RIVER BAY	4507	7958	55	122.9	83	2	6.54		3.66	0.042	3.3	3.4	29
MOUNTAIN LAKE (MINDEN)	4459	7843	54	319.6	78	6	7.15		12.15	.	.	.	.
MUD LAKE	4533	7710	56	287.8	78	6	8.26		24.90	.	.	.	.
NINE MILE LAKE	4457	7935	53	227.6	80	1	6.04		2.24	.	2.4	.	.
NISBET LAKE	4558	8036	55	41.6	80	10	8.02		23.10	.	.	.	.
NORWAY LAKE	4520	7643	56	271.0	80	6	8.01		109.40	.	.	.	.
OASTLER LAKE	4519	7958	55	116.0	80	8	6.53		5.95	.	4.2	.	.
OTTERSON LAKE	4602	7731	56	32.6	80	7	6.50		11.30	.	.	.	.
PAKESHKAG LAKE	4557	8031	55	53.7	78	7	7.30		16.05	.	.	.	.
PARTRIDGE LAKE	4533	8008	55	90.2	80	10	6.19		3.50	.	.	.	.
PAUGH LAKE	4535	7742	56	711.8	79	8	6.97		9.00	.	.	.	.
PICKEREL LAKE	4541	7918	53	513.4	79	7	5.85	*	2.80	.	.	.	.
PURDY LAKE	4521	7744	52	132.8	78	7	7.03		7.00	.	.	.	.
RADIANT LAKE	4600	7817	51	698.3	82	10	6.58		6.82	0.017	3.7	4.2	29
ROCK ISLAND LAKE	4533	8015	55	144.9	80	9	6.31		2.50	.	.	.	.
ROSE LAKE	4514	7921	53	30.4	83	2	5.23	*	0.53	0.140	1.8	6.9	87
ROUND LAKE	4538	7730	56	3068.8	78	10	7.63		.	.	8.0	.	.
RYE LAKE (PICKEREL)	4551	7943	55	104.4	79	8	6.35		7.50	.	.	.	.
SALMON TROUT LAKE	4511	7749	52	100.4	78	7	7.05		18.05	.	.	.	.
SHEBESHEKONG LAKE	4526	8011	55	158.4	80	9	6.21		3.20	.	.	.	.
SIX MILE LAKE (NAISCOOT)	4539	8021	55	235.6	78	7	6.60		1.60	.	.	.	.
SOYERS LAKE	4501	7837	54	329.4	79	8	7.12		15.15	.	8.3	.	.
SPARROW LAKE	4447	7924	53	1124.8	83	2	7.90		84.25	0.063	31.0	4.9	31
SPENCE LAKE	4500	7917	53	98.2	83	2	5.69	*	1.15	0.110	2.6	6.6	56

REGION=ALGONQUIN

LAKE	LAT	LONG	DISTRICT	AREA	YEAR	MONTH	PH	RISK	ALK	AL	CA	DOC	COLOUR
SQUAW LAKE	4600	8021	55	132.9	83	2	6.680		6.66	0.100	4.4	6.3	44
STEVENSON LAKE	4541	7736	56	42.3	80	6	7.120		13.50	.	.	.	.
STURGEON BAY	4536	8024	55	595.3	79	7	7.700		23.80	.	.	.	.
TALBOT LAKE	4442	7851	54	124.9	83	2	7.090		133.50	0.021	45.2	8.8	58
TAYLOR LAKE	4541	7958	55	78.5	83	2	6.460		7.45	0.086	5.0	7.2	60
TEE LAKE	4610	7738	56	74.9	80	7	6.080		6.20	.	.	.	.
THREE MILE LAKE	4510	7927	53	929.9	78	7	6.000		7.95	.	.	.	.
TOAD LAKE	4554	8003	55	290.1	83	2	6.590		6.48	0.086	4.8	6.9	58
WAHWASHKESH LAKE	4543	8002	55	1721.3	78	7	6.190		.	.	4.2	.	.
WALLACE LAKE	4532	8008	55	48.2	83	2	5.620	*	2.24	0.120	2.6	5.3	50
WATT LAKE (WATTS)	4510	7805	52	32.8	83	5	6.956		5.19	.	.	.	.
WHITESTONE LAKE	4539	7952	55	698.2	79	5	6.600		7.65	.	.	.	.
WILSON LAKE	4536	8015	55	119.4	83	2	5.760	*	0.87	0.100	2.2	5.6	43
WOOD LAKE	4501	7905	53	378.3	80	7	6.310		2.63	.	2.4	.	.
YOUNG LAKE	4443	7910	54	93.2	83	2	7.620		97.40	0.010	31.7	4.9	19

REGION=EASTERN

LAKE	LAT	LONG	DISTRICT	AREA	YEAR	MONTH	PH	RISK	ALK	AL	CA	DOC	COLOUR
BOBS LAKE	4441	7635	64	2451.1	78	6	8.33		.	.	.	.	.
BUCKSHOT LAKE (INDIAN)	4500	7704	66	439.3	78	6	8.40		.	.	.	.	.
DALHOUSIE LAKE	4458	7634	63	591.3	78	6	8.00		44.30	.	.	.	.
DENBIGH LAKE	4508	7716	66	80.4	78	6	8.19		54.50	.	.	.	.
INGLESBY LAKE	4427	7703	66	169.3	78	6	8.36		92.00	.	.	.	.
NEWBORO LAKE	4438	7620	61	1617.9	80	7	7.59		79.80	.	.	.	.
PRINGLE LAKE	4452	7714	66	94.7	80	1	6.05		4.77	.	.	.	.
RIDEAU LAKE	4446	7613	61	6484.1	80	11	7.61		88.50	.	.	.	.
SHELDRAKE LAKE	4449	7717	66	185.8	80	1	6.59		7.31	.	.	.	.
SKOOTAMATTA LAKE	4450	7716	66	1263.9	80	1	6.99		8.64	.	.	.	.
STOCO LAKE	4428	7717	66	503.0	78	7	7.60		56.00	.	.	.	.
UPPER RIDEAU LAKE	4441	7620	61	1363.2	80	9	8.58		75.60	.	.	.	.
WHITE LAKE	4518	7631	63	2358.2	80	6	8.28		108.30	.	.	.	.
WOLFE LAKE	4441	7630	64	955.0	80	8	8.01		89.60	.	.	.	.

REGION=CENTRAL

LAKE	LAT	LONG	DISTRICT	AREA	YEAR	MONTH	PH	RISK	ALK	AL	CA	DOC	COLOUR
BURROWS LAKE	4450	7940	71	86.3	81	2	6.65		6.75	.	.	.	.
GLOUCESTER POOL	4451	7942	71	1377.6	81	2	7.85		91.20	.	.	.	.
MACLEAN LAKE	4449	7939	71	97.7	81	2	6.08		8.90	.	.	.	.
MATCHEDASH LAKE	4447	7929	71	158.8	81	2	5.91	*	2.75	.	.	.	.
MUD LAKE	4440	7918	71	143.5	81	2	7.16		118.80	.	.	.	.
SIX MILE LAKE	4454	7943	71	1474.4	81	2	7.85		90.60	.	.	.	.
TEA LAKE	4452	7939	71	129.7	81	2	6.69		18.10	.	.	.	.